

Textile

bulletin

WM S POWELL
UNIVERSITY OF N C
LIBRARY
CHAPEL HILL N C

C677
T 35b

IN THIS ISSUE

Notes From A.C.M.I.'s Annual Meeting . . .	43
Some Tips On Effective Waste Control . . .	52
What Makes A Good Supervisor? . . .	65
A Banker Looks At The Textile Industry . . .	81

COMPLETE TABLE OF CONTENTS, PAGE 104

Production & Quality

PRODUCTION: West Point's PACESETTER Slasher is regularly achieving drying rates of over 1,600 pounds per hour (dry unsized weight) on 9-cylinders and over 2,000 pounds on 11-cylinders. Operating speeds of 90 to 150 yards per minute are common while 175 and over 200 yards are known in special cases. Excellent warps are made whether you slash canvas, print cloth, satin or suiting materials.

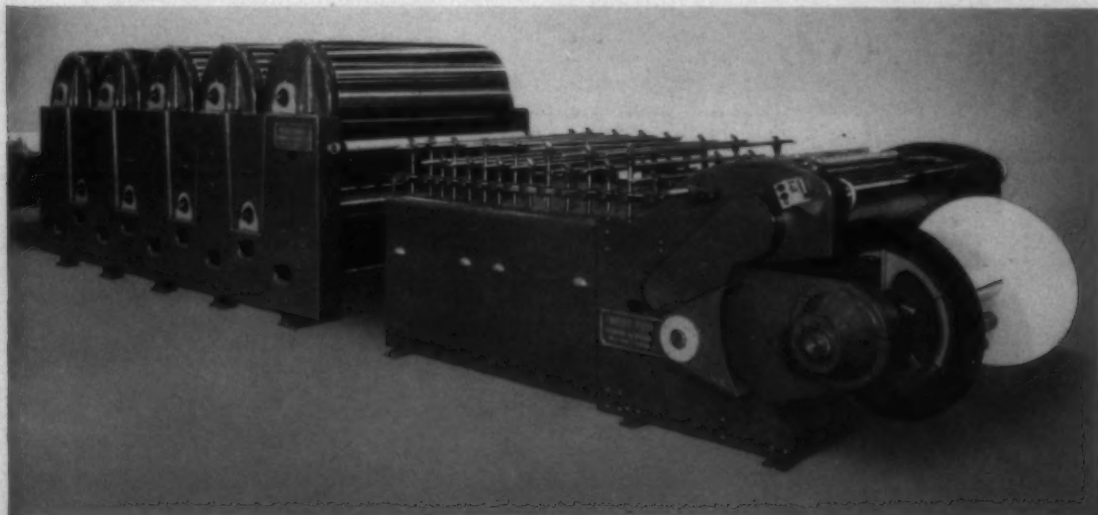
QUALITY: The PACESETTER is built to last with massive cast iron frame, extra heavy-duty journals and sprockets (or V-belt drive optional). Patented wide-open design and convenient lift-out panels for superior access to warp, plus covered steam and condensate manifolds for safety and ease-of-cleaning are additional *top quality* features of the PACESETTER Slasher.

Any way you look at it—it's worth while to get more information on West Point's PACESETTER Slasher. Ask us or ask your neighbor who runs one.



WEST POINT, GEORGIA

two big reasons for buying the Pacesetter Slasher!



THE BULLETIN is published monthly by Clark Publishing Co., 108 West Morehead St., Charlotte, N.C. Subscription per year in advance, \$2.00. Entered as second-class mail matter February 2, 1911, at Postoffice at Charlotte, N.C., under Act of Congress, March 2, 1897.

BPA

NBP

Changing styles or regular run . . .

Batson has the right take-up roll coverings for you



For create-free, slip-free,
even-rolling cloth
BATSON IS YOUR ONE
SOURCE FOR ALL YOUR
TAKE-UP ROLL COVERINGS

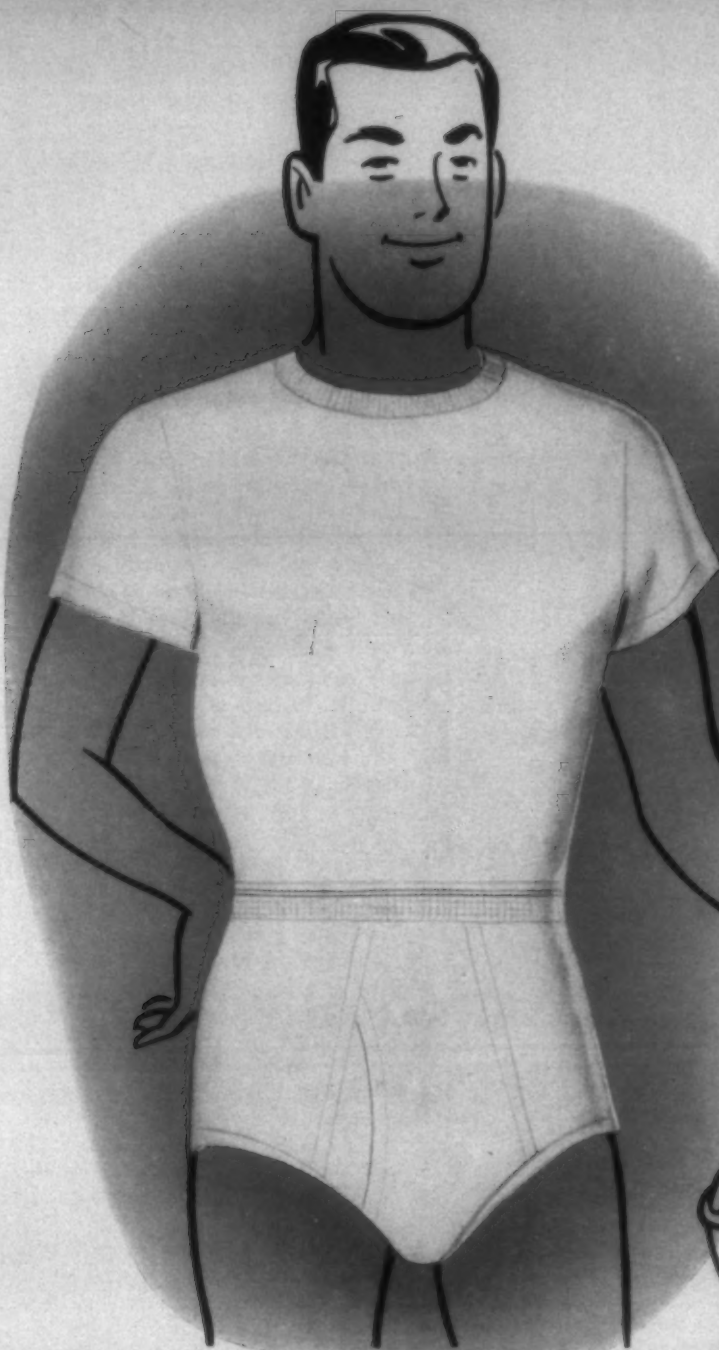
Because Batson has the widest assortment of use-tested take-up roll coverings . . . because Batson's fast delivery and proved service means your roll coverings are on the spot when you need them, ready for easy application . . . and all your Batson take-up roll coverings are long-wearing, resilient . . . they hold, yet treat your finest fabrics tenderly. Make Batson your prime source, your *one* source for take-up roll coverings for weave room, finishing plant or cloth room.



Louis P. Batson
Company

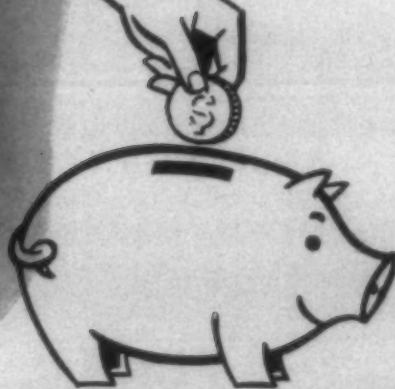
SALES AGENTS, WHOLESALE DISTRIBUTORS & MANUFACTURERS

Box 3978 • Park Place • Greenville, S.C.



Union Underwear reduces costs... maintains quality

with Solvay
Activated Hydrogen Peroxide
Bleaching Process



Over the past nine years Union Underwear Co., Inc.—licensed manufacturers of “Fruit-of-the-Loom” brand underwear—has maintained their quality standard without increasing prices. An important factor in this improved manufacturing efficiency was their adoption of the Solvay Activated Hydrogen Peroxide Bleaching Process.

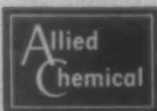
The Solvay Activated Hydrogen Peroxide Bleaching Process is a new method for bleaching cotton developed by Allied Chemical Corporation and available under a royalty-free license. This new process can give you whites equal to your present process with an important decrease in costs... consumption of hydrogen peroxide and additives can be reduced 25 to 50% depending on purity of cotton before bleaching. Or, you can achieve whiter whites at no increase in cost.

Solvay can provide technical service to help you evalu-

ate this new process for your plant. A booklet is available from Solvay which describes application, advantages, cost analysis and comparative quality... full details on the techniques and results you can expect. Write today for your free copy of “Solvay Activated Hydrogen Peroxide Bleaching Process for Cotton.”

SOLVAY® CHEMICALS FOR TEXTILES

Caustic Soda • Chlorine • Hydrogen Peroxide • Sodium Nitrite
Soda Ash • Mutual® Chromium Chemicals • Potassium Carbonate



SOLVAY PROCESS DIVISION

61 Broadway, New York 6, N.Y.

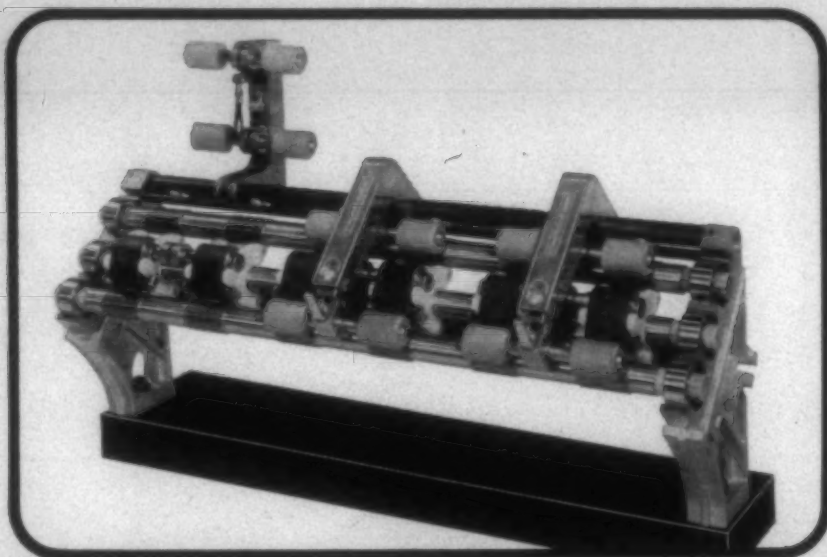
Branch Sales Offices: Boston • Charlotte • Chicago • Cincinnati • Cleveland
Detroit • Houston • New Orleans • New York • Philadelphia • Pittsburgh
St. Louis • San Francisco • Syracuse

**YARN
MAKING
MACHINERY**

ROBERTS NEWS

**COTTON,
WORSTED OR
LONG FIBER
SYSTEMS**

Roberts FC Drafting System . . . Cleanest, Simplest, Best Yarn Quality



FC Drafting clears roll beam of all weighting attachments. Ball bearing bottom rolls on all three lines, shown above, are optional.

- Cleanest Running — Easiest to Clean
- Simplest — Fewest Number of Parts
- Highest Yarn Quality — Stronger, More Even Yarns
- Broadest Versatility — Cotton, Synthetics, Blends
- Short or Long Staple — Synthetics $1\frac{1}{4}$ " to 3"
- Coarse or Fine Yarns — 2s to 120s
- High Draft — 10 through 60
- Cartridge Weighting
- Roll Beam Clean — No Weighting Attachments
- No Lever Screws, Weight Levers and Hooks, Dead Weights
- PosiWate Pendular Arm Suspension — Positive Weighting
- No Oil in Entire Drafting Zone
- 3 Lines Ball Bearing Top Rolls
- Ball-Bearing Bottom Rolls Optional
- Hardened Bottom Rolls with EvenGrip Fluting
- Nylon Cradles with Choice of Pin Opening
- Reduces Weight on Frame by $\frac{3}{4}$ of a Ton

ROBERTS COMPANY

Sanford, North Carolina

Arrow Spinning Frames for Cotton and Worsted Systems • Twisters and Roving Frames
Tow-Transformers • ParaBlenders • ParaDrafters • AutoEveners

Roberts Company has achieved a most precision made cotton spinning system with its FC Drafting. It is the cleanest running, and the simplest with the fewest number of parts. It consistently gives the highest yarn quality from spindle to spindle and from year to year.

Dramatically new and improved in FC Drafting is a cartridge weighting arrangement which eliminates all weighting attachments to the roll beam, disposing of the lever screw, weight lever, weight hook and dead weight.

Used instead is an enclosed spring cartridge attached to a cartridge bar fastened between roll stands. A simple lever is depressed to unweight or to weight up the top rolls. There are no short springs inside the pendular suspension.

WIDE VERSATILITY

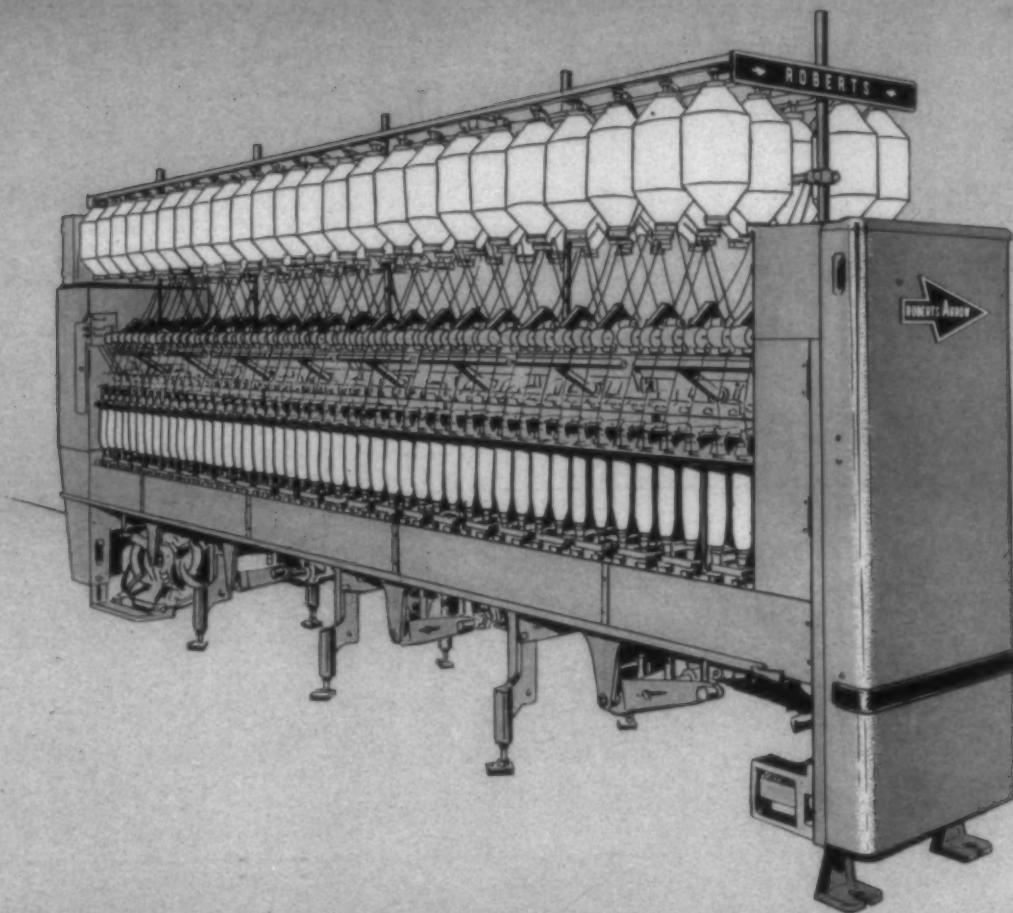
Coarse or fine yarns from 2s to 120s, cotton or synthetics and blends, and a broad range of drafts from 10 to 60, are efficiently handled by new FC Drafting.

Proper, efficient fiber control, fiber gripping and weight is provided without the limitations of other systems using short springs, weights or magnets.

FC Drafting can be arranged to handle short or long staple cotton, and synthetic fibers from $1\frac{1}{16}$ " to 3" long. A choice of cradle lengths and solid or recessed apron top rolls provides this flexibility.

One arrangement handles cotton up to $1\frac{1}{16}$ " long and synthetic fibers $1\frac{1}{16}$ ". Recessed top apron rolls may be used for synthetics of 2" to $2\frac{1}{2}$ " long. Another arrangement handles regular running of long staple cotton up to $1\frac{1}{16}$ ", or synthetics of 2" and less. The recessed roll extends this to 3" synthetics.

Send for Bulletin. For further information on Roberts FC Drafting write for Technical Bulletin FC-101.



ROBERTS **ARROW**

ADVANCED ENGINEERING DESIGN ATTRACTIVE LOW PRICE PRACTICAL MILL OPERATION

➔ **1200 NEW ROBERTS ARROW** Spinning Frames with some 380,000 spindles have been installed in mills since their introduction four years ago; dramatic testimony that Arrow Spinning does the job to mill satisfaction!

➔ **RUGGED, ALL BALL BEARING** and free of gadgetry and frills, new Arrow Spinning has been refined and streamlined, and engineered for peak performance and dependability. Many technological improvements have been incorporated.

➔ **HIGHEST YARN QUALITY!** With new FC Drafting cotton system spinning, Arrow Frames consistently spin stronger, more even yarns. Proper fiber control, gripping and weight assure superior yarn quality.

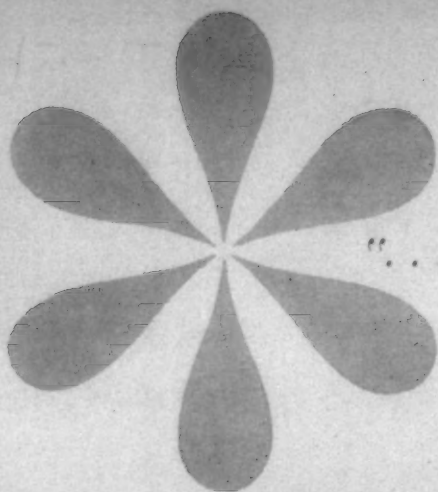
➔ **INCREASED SPEEDS!** Spindle speeds to 15,000 r.p.m., dynamic balancing of all components, and maximum use of ball bearings provide increased production and economy, with smooth and dependable performance.

➔ **WIDER VERSATILITY!** Coarse or fine yarns from 2s to 120s count, cotton or synthetics and blends, and a broad range of drafts from 10 to 60 are successfully handled. New Arrow Spinning spins short or long staple cotton, and synthetics from 1 $\frac{1}{16}$ " to 3". Changes in fiber, yarn number, draft, twist and hobbins build are quickly accomplished.

➔ **REDUCED CLEANING, MAINTENANCE!** Strictly functional, new Arrow Spinning has been engineered for trouble-free operation with reduced cleaning and maintenance. Simplification of components, and fewer parts provide quick, easy cleaning.

ROBERTS COMPANY

SANFORD, NORTH CAROLINA



"... in cotton spinning, Whitin has built more of the spinning frames, currently in operation in the United States, than all other makers combined"

Millions of Whitin-built spindles are in production today — dramatic proof of Whitin's ability to build the kind of spinning the industry wants.

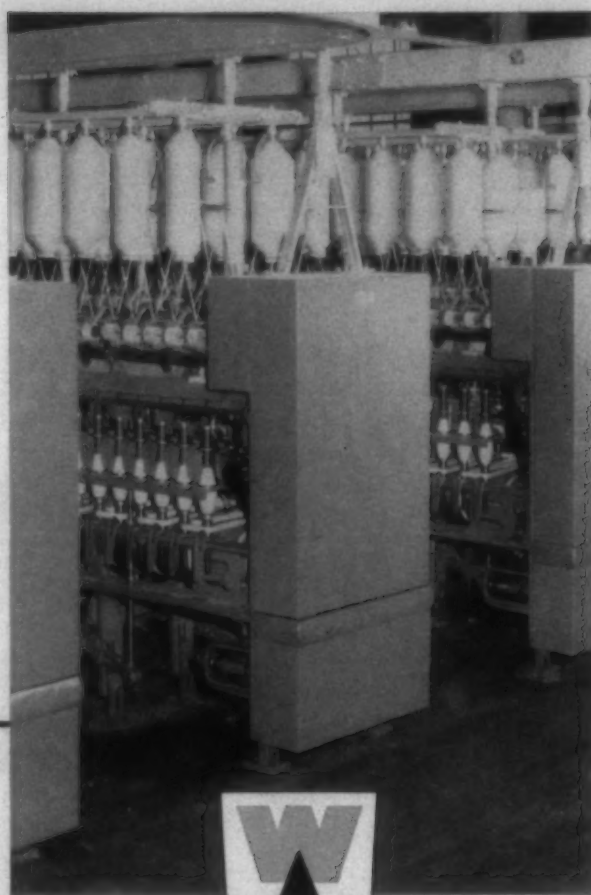
As a case in point, consider our new Model N Spinning Frame. Its quick acceptance again spotlights Whitin's alertness to the needs of the modern spinner.

Only Whitin, with century-long experience and unequalled facilities, could have produced such a frame.

It's a functional spinning frame — cut trim and lean — a compact combination of essential features, many tempered by mill test — others, new as tomorrow — deftly coordinated into a tough, hard-to-beat frame — a frame designed to spin your yarn competitively.

But, best of all, the price is cut trim and lean to match! The Model N can help you keep "the competitive edge." Your Whitin Representative can tell you how.

Why not call him today?



Model N Spinning at **WHITIN** Texas Textile Mills, Inc.

* Findings from a recent mill machinery facilities survey.

WHITIN machine works

W H I T I N S V I L L E • M A S S A C H U S E T T S

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

The best way to better yarns

Get peak cleaning
efficiency on frames,
underframes, overhead
and alley areas with

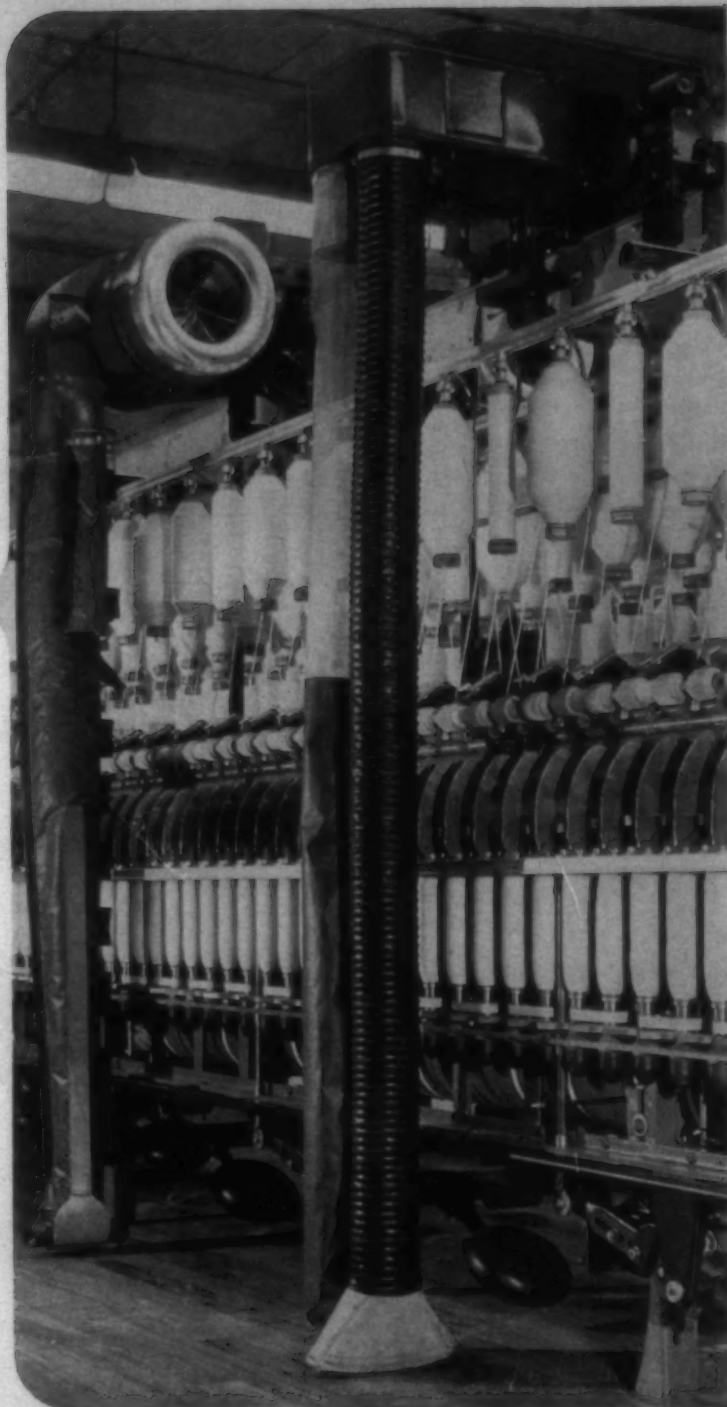
COMPLETE COVERAGE FEATURES

of CROSS-JET
FRAME CLEANER

and VACU-PAK
FLOOR SWEEPER
with automatic
"Stop and Go"
protection

Sweeper automatically stops on contact—then automatically re-starts when free of obstruction.

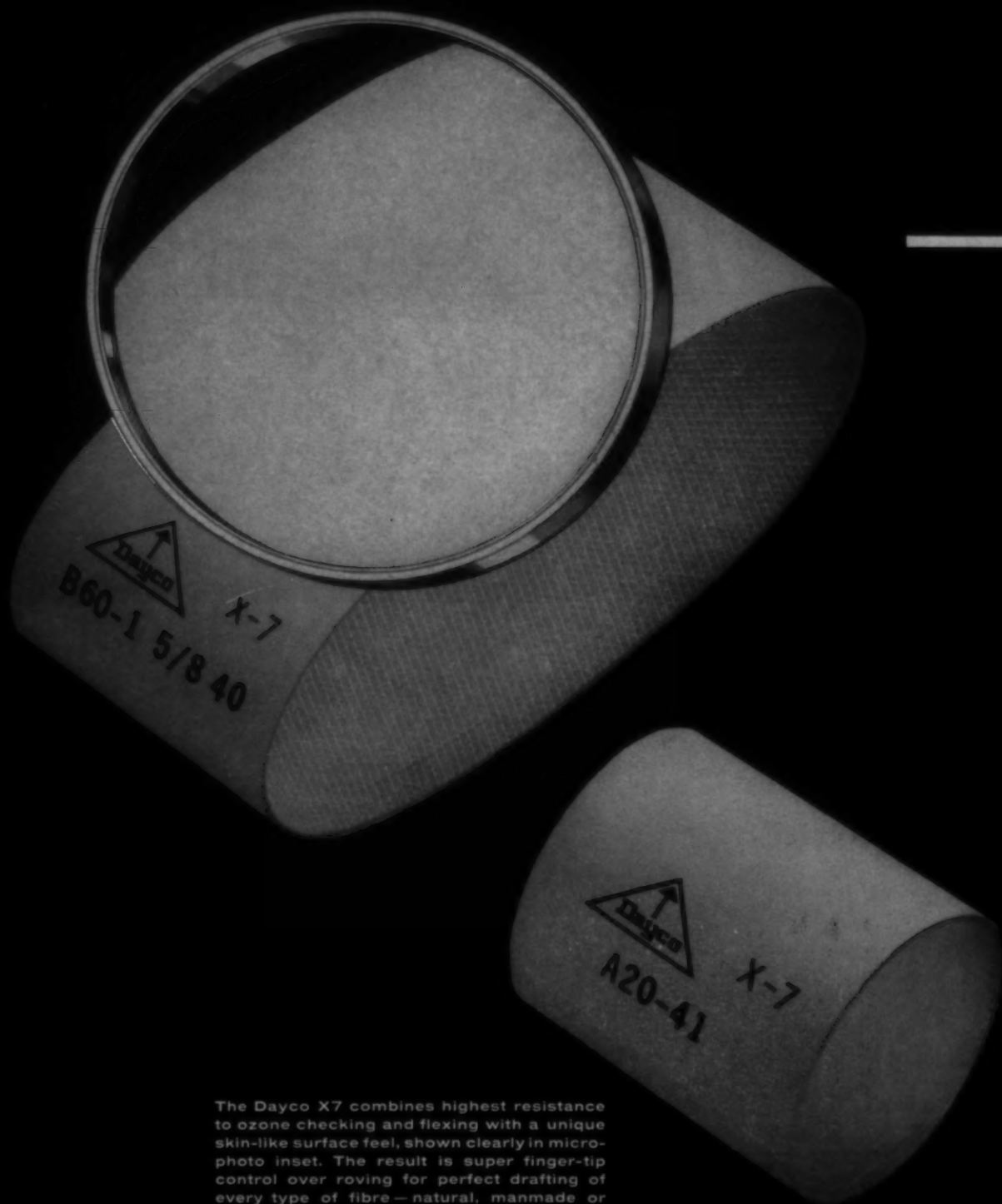
1. Provides protection to frame and spindles from trunk swinging free of obstacles and back into frame.
2. Provides protection for operator to work efficiently without interruption by traveling trunk.
3. Provides protection against damage to trunk by obstacles in its path.
4. Provides protection against accidents and operating time loss.



Bahnson

AIR-O-MATION

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.



The Dayco X7 combines highest resistance to ozone checking and flexing with a unique skin-like surface feel, shown clearly in micro-photo inset. The result is super finger-tip control over roving for perfect drafting of every type of fibre—natural, manmade or blend. Available in all sizes for both short and long apron systems.

The Amazing New Dayco X7 Apron Solves Many Major Drafting Problems

Exclusive, new ingredients add longer life, improve drafting, cut downtime to new lows.

Here's news of a major break-through in apron performance . . . the Dayco X7, with a special new ingredient that greatly increases the durability and the drafting effectiveness of its outer surface.

The Dayco X7 is readily identified by the Dayco triangle and arrow, as well as by the superior performance it gives on every type of drafting frame. Outstanding among its features is the skin-like texture of its outer surface. This improved surface texture made possible by Dayco's exclusive ingredient and processing gives finger-tip control. The result is smoother, easier drafting of all types of fibres and blends.

How well does the Dayco X7 meet other apron requirements?

1. Dayco X7 offers highest resistance to ozone checking.
2. Dayco X7 reduces longitudinal cracking caused by flex (hysterectic loss in molecular strength) to a minimum.
3. Dayco X7 turns without slipping, the bottom apron properly driving the top one without excessive friction.
4. The Dayco X7 inside surface provides the lowest possible coefficient of friction and maximum resistance to abrasive wear.
5. Dayco X7 meets the demand of modern drafting . . . heavier weighting, higher speeds, and higher drafts—so common to newer frames.

The Dayco X7 gives top performance in every one of these respects, and in many others. It drafts all natural and man-made fibres and blends more smoothly and efficiently.

Five years of developmental work by Dayco engineers have made the Dayco X7 a truly superior apron. And more than a year's testing "on the firing line" has confirmed their reports. In tests involving many spindle hours of actual use under every conceivable operating condition, the Dayco X7 has come through with flying colors.

The Dayco X7 is made in all sizes for both short and long apron systems. It is backed by Dayco's high standards of quality and service. It reflects the same careful design and precision manufacture as Dayco standard aprons and other Dayco textile products with which you're already familiar.

Discover the excellence of this outstanding new apron for yourself. Let your Dayco representative help you arrange a trial of the Dayco X7 in your own operation.

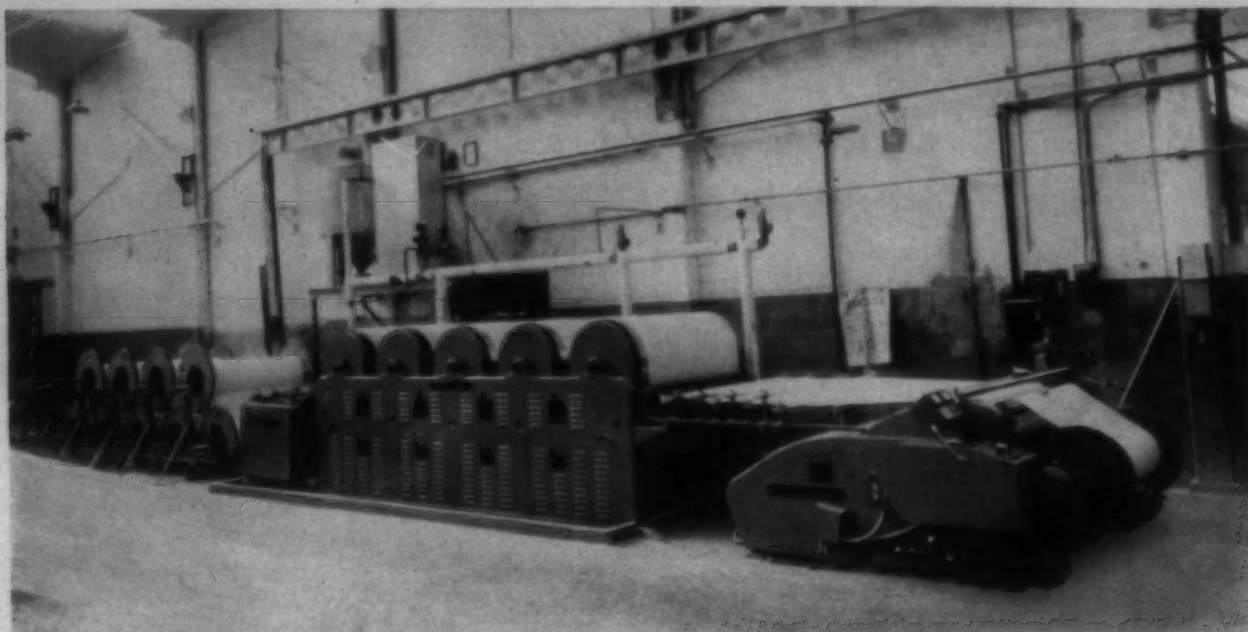
Phone or write Dayco Textile Products Co., 401 South Carolina National Bank Bldg., Greenville, S. C. Overseas plant: The Dayton Rubber Co. Ltd., Dundee, Scotland.

Dayco
TEXTILE PRODUCTS CO.



Division of Dayco Corporation

ANOTHER RECENT COCKER GH SLASHER INSTALLATION



At TEXTILES "AGA. S. A." Talpam, D. F.

Cocker's reputation is world wide, and you will find Cocker Warp Preparatory Equipment in the finest mills everywhere.

The reason is simple. No other company has such an impressive record of firsts, in the warp preparatory field, as Cocker. It is significant that virtually every feature pioneered and made standard by Cocker has been adopted by all other manufacturers.

The Cocker GH Slasher shown here has valuable features which will probably not be offered on other equipment for years to come and gives you "TOMORROW'S SLASHING TODAY". An investigation of Cocker equipment can mean untold savings in the future. Write for our catalog today.

A Cocker GH Slasher Installation "SOUTH OF THE BORDER"

Exclusive GH Slasher Features

- Simple, efficient Torque Tube Drive*
- Individually removable cylinders
- Snap-out ventilating panels
- Light metal sprocket guards
- Air motor loading of size box top rolls
- Vibration-free speeds up to 184 ypm
- Compact, low-silhouette design

*Pat. Pending

COCKER MACHINE & FOUNDRY COMPANY

IN CANADA:

Contact W. S. Clark
Montreal, Canada
Oxford 7-2242

IN MEXICO:

Ing. J. Via, Jr.
I. La Catolica 45-911
Mexico, D. F.

**PLANT & OFFICES
at Rantlo, N. C.**

MAILING ADDRESS:
Gastonia, N. C.

**WORLD'S LARGEST DESIGNERS
AND BUILDERS OF COMPLETE
WARP PREPARATORY EQUIPMENT**



The best textiles are sized

with the best starches...

GLOBE®

Easy Flow starch

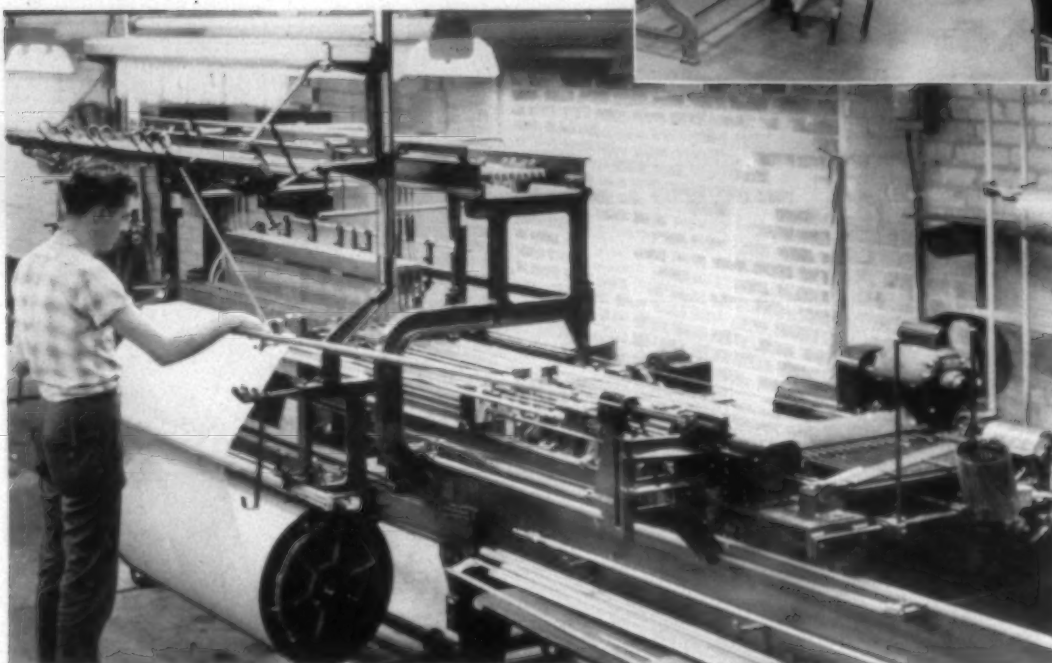


WRITE OR PHONE Corn Products for expert technical assistance...
helpful data on these fine products for the Textile Industry:

GLOBE® • EAGLE® • FOXHEAD® • TEN-O-FILM® • CLARO® • CRESCENT® starches • GLOBE® • EXCELLO® dextrines.

CORN PRODUCTS COMPANY, INDUSTRIAL DIVISION • 10 East 55 Street, New York 22, N.Y.

IF YOU ARE
ENTERING
YOUR **WARPS**
LIKE THIS



WE SUGGEST YOU LOOK INTO THE
BARBER-COLMAN
WARP DRAWING MACHINE

With this machine, the time-eating task of drawing-in is speeded up tremendously. A power-driven needle, running at 127 to 230 strokes per minute (depending on the number of weaving elements to be entered), draws each thread in succession through the correct selection of drop wire, heddle, and reed dent. This correct selection is made accurately and automatically for each pick by a sequence of mechanical actions controlled by a pattern strip

punched in accordance with the designer's draft. Very substantial reductions of drawing-in costs are possible, particularly on patterned goods such as stripes, plaids, and fancy weaves. This modern method of replacing warps has enabled many mills, both large and small, to meet the ever-increasing demands for a greater variety of patterns. Your Barber-Colman representative is qualified to advise you on possibilities in your mill.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A.

GREENVILLE, S. C., U.S.A.

MANCHESTER, ENGLAND

MUNICH, GERMANY

INDIA
Battiboi & Company
Forbes Street, Fort
Bombay, India

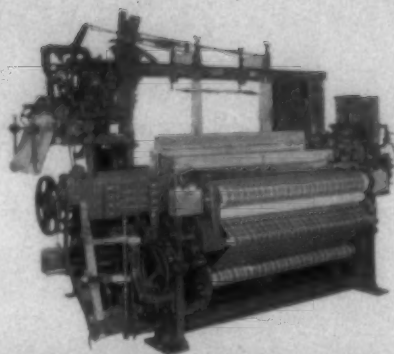
MEXICO
J. Rabasa
Isabel la Catolica 45-913
Aparlato 7348
Mexico D.F., Mexico

BRAZIL
Industria e Comercio de Maquinas S. A.
"COMASA"
R. Glicerio, 537/547
Sao Paulo, Brazil

JAPAN
Do-Yei Shoji Kabushiki Kaisha
Atlas Building (7th Floor)
11, Bingo-Machi, 3-Chome,
Higashi-Ku
Osaka, Japan

PAKISTAN
Associated Agencies
(M'cr.) Ltd.
Piccadilly House
11 Piccadilly
Manchester 1, England

PAKISTAN
Associated Agencies
(M'cr.) Ltd.
730, Muhammadi House,
McLeod Road
Karachi 2, Pakistan



QSEWMT

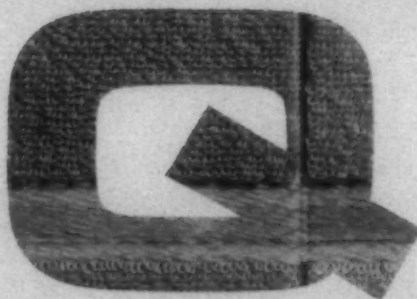
QUALITY OF CLOTH • SPEED OF LOOM
EFFICIENCY • WEAVER ACCEPTANCE
MAINTENANCE COSTS • TRAINING TIME

BETTER QUALITY FABRICS are produced on the C-7 because improvements engineered into the loom substantially reduce the weaver's job operations and physical effort and help eliminate many types of cloth defects.

With fewer duties to perform the weaver has more time for inspection and defect prevention. Reduced physical effort means he is less fatigued, so is more alert to make better cloth through the whole shift.

Unfailing performance of protection devices insures high quality fabric and lessens profit-reducing seconds. Simplified stop motions mean fewer undetected broken ends and broken picks. No going over front center on a filling break. Electric protection provides gentle smash prevention. The transmitter drive reduces start-up marks. Double link binders give more uniform filling tension, smoother weaving and shiner prevention.

Loom for loom the versatile C-7 weaves better cloth, and improving quality increases profits. Write for the illustrated folder "Gain the Competitive Edge" for technical details.



CROMPTON & KNOWLES CORPORATION

WORCESTER, MASSACHUSETTS

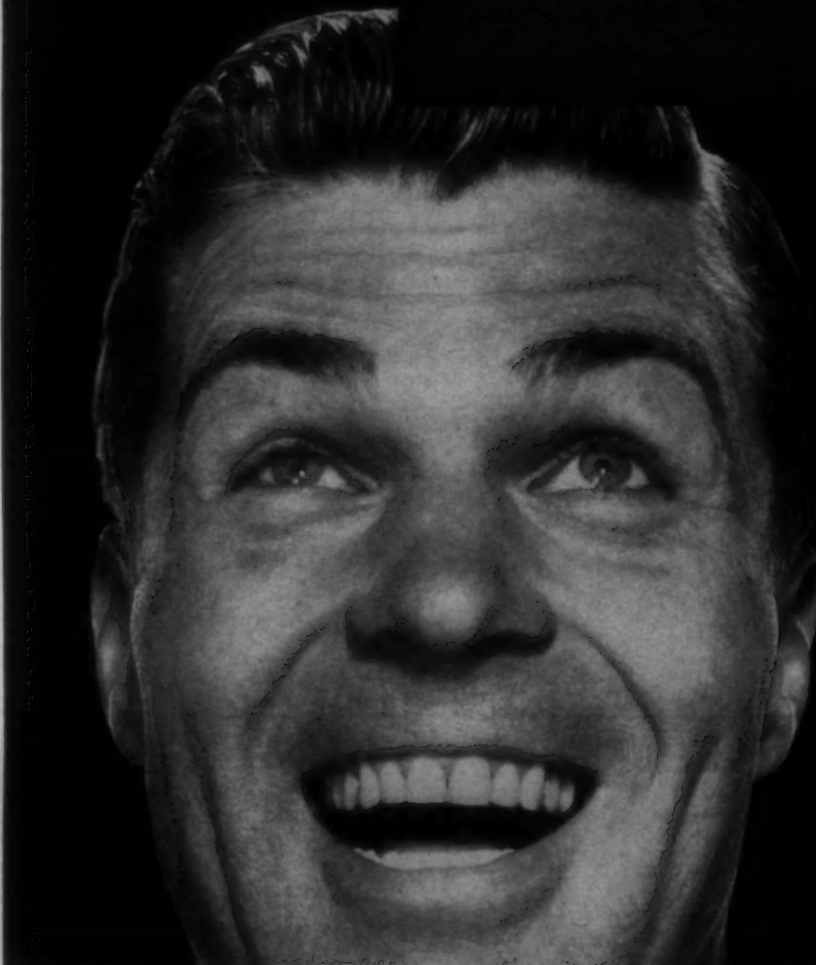


WORLD LEADERSHIP IN AUTOMATIC BOX LOOMS—RESEARCH—ENGINEERING—MANUFACTURE

CHARLOTTE, N. C. / ALLENTOWN, PA. / CROMPTON & KNOWLES JACQUARD & SUPPLY CO. PAWTUCKET, R. I. / CROMPTON & KNOWLES OF CANADA, LTD., MONTREAL, QUEBEC

NVF announces broadened

Fisher Manufacturing Company—specialists in textile materials-handling



NVF •

FISHER DIVISION



NVF • FISHER DIVISION

Designers and fabricators of specialized materials handling equipment for the textile industry*, based on safety, efficiency and functional design. .

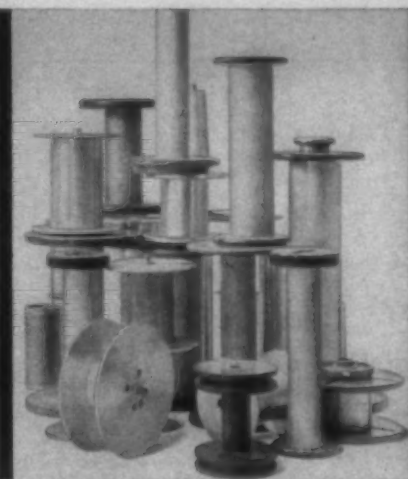
service to the textile industry

equipment—becomes Fisher Division of National Vulcanized Fibre Company.



NVF KENNETT DIVISION

Roving cans, hand trucks, tote boxes, trays, baskets and barrels in a wide range of sizes, styles and combinations. Made of Vulcanized Fibre or other materials.



NVF LESTERSHIRE DIVISION

Spools and bobbins in a wide choice of designs and materials—aluminum, fibre, and combinations, including Lestershire's new brazed aluminum construction.



NVF BASIC MATERIALS DIVISION

Choice of 116 basic engineering plastics. For uses such as shuttle armor, spool heads, gears, cake discs, machine parts, binder pins, adjuster sticks, and tenter rails.

Meet the new broader line-up of NVF products and services now ready to dig deeply into your materials-handling problems . . . to come up with ideas that can mean substantial dollar savings and increased efficiency in your mill.

Fisher Division's products, skills, facilities, and specialized knowledge of mill materials-handling needs complements NVF's full line of standard and special Kennett trucks, trays, boxes, and roving cans. For example, NVF Fisher Warp-Off Systems are standard in many mills, have a solid record of cost reduction. Specialized NVF Fisher equipment includes card can trucks, filling boxes, pin rack trucks, beam handlers, warp spool trucks, quill boxes and many others. In addition to its Vulcanized Fibre line of equipment, NVF now offers you a wide variety of constructions and a choice of materials that includes steel, stainless steel, fiberglass, and aluminum.

Add to this the NVF line of Lestershire Spools and Bobbins for synthetic and natural fibers, which are

SALES OFFICES: Baltimore, Charlotte, N. C., Chicago, Cincinnati, Cleveland, Columbus, Ga., Dallas, Texas, Greensboro, N. C., Greenville, S. C., Hartwell, Ga., New York City, Philadelphia, Providence, R. I., Rochester, N. Y., Syracuse, N. Y., and other principal cities.

*The warp spooler truck shown has been granted U.S. Patents #2,980,287 and 2,980,437.

offered in a range of designs and construction materials.

NVF now serves you from ten strategically-located plants throughout the United States and Canada. Included is the modern Fisher Division manufacturing plant at Hartwell, Georgia, plus an expanded sales and service organization throughout the industry.

Invite a NVF Fisher, Kennett or Lestershire representative to discuss *your* mill requirements. As close to you as your phone, he is backed by a service, engineering and manufacturing organization that knows how to increase your materials-handling efficiency . . . and save you money.



NATIONAL VULCANIZED FIBRE COMPANY

FISHER DIVISION, Hartwell, Ga. • KENNETT DIVISION, Wilmington, Del. • LESTERSHIRE DIVISION, Hartwell, Ga.
In Canada: NATIONAL FIBRE CO. OF CANADA, LTD., Toronto 9, Ontario

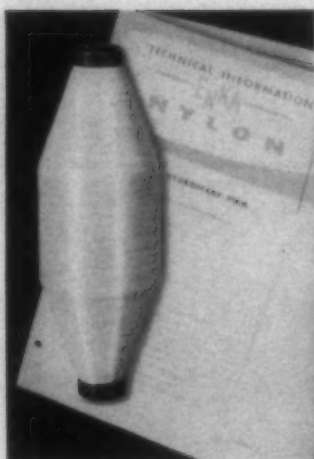
ENKA

keeps its eye
on the future...
its yarns
in the news!



Day after day, season after season, ENKA produces fine, modern nylon and rayon yarns that make the news for converters, cutters and retailers.

Here are some recent news makers!



News! The Enka nylon Hydrowarp® Pirn is designed to unwind yarn from a parallel plane. In operation it increases net yarn weight per pirn, improves unwinding tensions, actually reduces costs in texturing, warping, knitting, throwing. Write for Technical Bulletin NM-4 on Enka's nylon Hydrowarp pirn. Marketing Technical Dept., American Enka Corporation, Enka, N. C.

*Trademark Whitin Machine Works



News! Enka's Blanc de Blancs Nylon, the dazzling white yarn created especially for foundations and intimate apparel. The whiteness is yarn-deep in this wonderful nylon, resulting in uniformity throughout a garment or a line. Write for Enka Technical Bulletin NM-2 for more facts on Blanc de Blancs nylon yarn. Marketing Technical Dept., American Enka Corporation, Enka, N. C.



News! Enka nylon for Sheers is made in a larger filament size for a smoother, more versatile hand. It creates softer chiffons, more supple organzas, crisper organdies. And Enka nylon's affinity for dyes results in truer color clarity. Find out more about Enka nylon yarn for sheer fabrics. Call Enka Merchandising in New York, 350 Fifth Ave., PE 6-2300 or the Enka sales office nearest you.

Nylon sheer dress by Fred Perlberg in an Avila fabric.



News! Enka Softglo® rayon is a soft, low-luster yarn for decorator and upholstery fabrics. Softglo rayon brings rich beauty and lasting strength to luxurious fabrics designed for the home. For full details on Enka Softglo rayon, contact Enka Merchandising at 350 Fifth Ave., New York 1, N. Y., PE 6-2300, or the Enka sales office nearest you. Chair by Sam Moore in a Bartson fabric.

 American **ENKA** Corporation, Enka, N. C. • Producer of nylon • rayon • yarns • fibers
NEW YORK OFFICE: 350 Fifth Ave., New York 1, N. Y. • DISTRICT SALES OFFICES: Greensboro • Providence

Go
BUTTERWORTH
young man!

(audio)
If you handle a contin-
uous web of textiles...



(audio)
You can . . . wash it



(audio)
. . . print it



(audio)
. . . emboss it



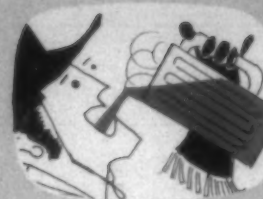
(audio)
. . . coat it



(audio)
. . . guide it



(audio)
. . . mercerize it



(audio)
. . . wet it



(audio)
. . . bleach it



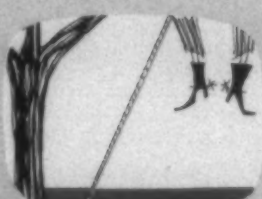
(audio)
. . . dry it



(audio)
. . . cut it



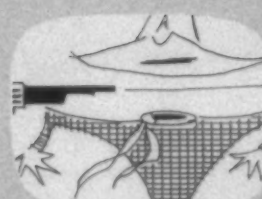
(audio)
. . . wind it



(audio)
. . . stretch it



(audio)
. . . shrink it



(audio)
. . . dye it



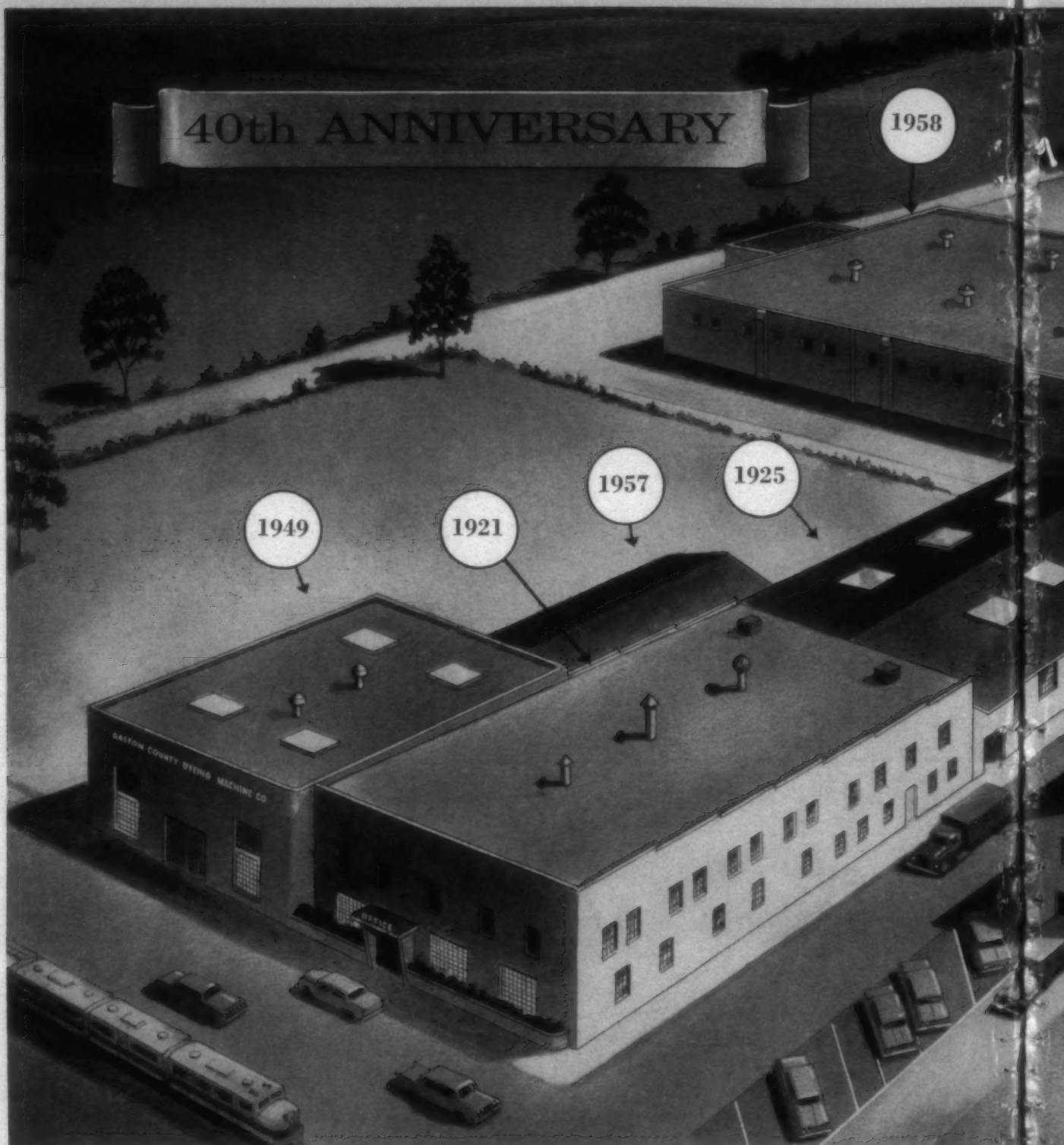
(audio) All in
Butterworth Machines

Go **BUTTERWORTH** young man!

H. W. BUTTERWORTH & SONS COMPANY
Division of Van Norman Industries, Inc.
BETHAYRES, PA. • SINCE 1820

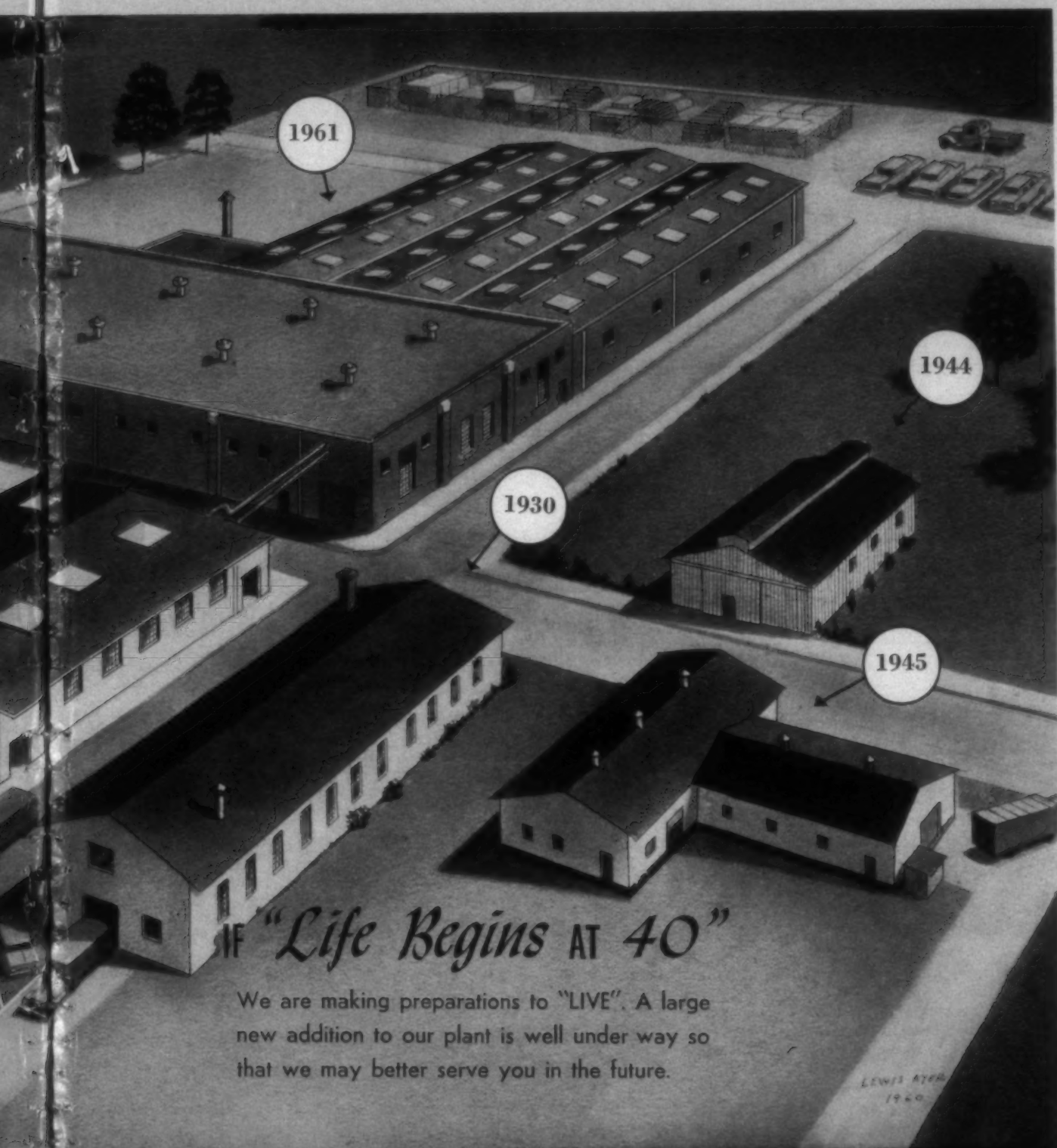


In the South: Industrial Heat Engineering Co., Greenville, S. C.
In the North: United States Supply Co., E. Providence, R. I.



To our friends in the textile and chemical industries we express our sincere appreciation for your confidence during the past 40 years and we begin our 5th decade of service by saying simply and humbly—**THANK YOU.**

With our machinery operating throughout the United States and Canada as well as 15 other countries, we re-new our pledge to continue to build the best wet processing equipment that can be devised by human ingenuity and experience.



IF "Life Begins AT 40"

We are making preparations to "LIVE". A large new addition to our plant is well under way so that we may better serve you in the future.

Gaston County Dyeing Machine Co.

WORLD'S LARGEST PRODUCER OF PRESSURE DYEING & DRYING MACHINERY
STANLEY, N. C., U.S.A.

Gaston Co. Dyeing Machine Co.
Terminal Bldg., 68 Hudson Street
Hoboken, N. J., G. Lindner, Mgr.

Albert P. March
Flourtown, Pa.
Philadelphia ADams 3-2901

J. R. Angel
1104 Mortgage Guarantee Bldg.
Atlanta 3, Ga.

A. R. Breen
80 E. Jackson Blvd.
Chicago, Ill.

The Rudel Machinery Co., Ltd.
614 St. James Street, W., Montreal
260 Fleet St., E., Toronto

NOW...FASTER, LOWER COST SLASHING MORE UNIFORM YARN SIZING

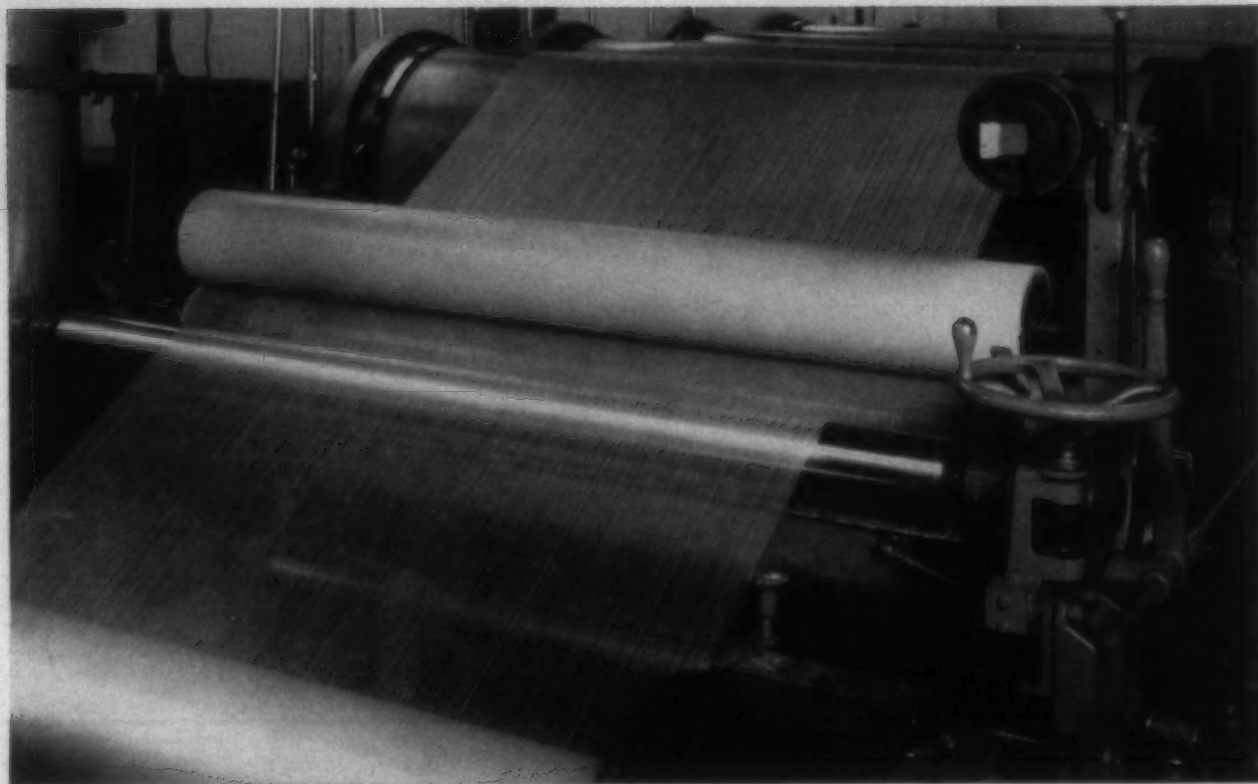


Photo Courtesy Prescott Warping & Warp Dye Corp.

NEW MANHATTAN SLASHER ROLLS ARE YOUR BEST BUY AT SQUEEZE AND DRESSING ROLL POSITIONS ONLY MANHATTAN SLASHER ROLLS OFFER THIS COMBINATION OF FEATURES:

- Special synthetic rubber compounds control size pick-up to your requirements.
- Uniform, correct roll density assures *uniform, even pick-up*—the finish *you want*.
- Accurate metering of size permits substantial savings in starch costs.
- Distinctive red roll color permits faster, easier detection of yarn-end breaks.
- Keep perfect cushion *without* indentation—eliminate slasher downtime costs to maintain blankets.
- Roll end-caps prevent metal corrosion between cover and metal core.
- Provide highest resistance to starches, gums, softeners, oils or chemicals. Can be reground for longer life.

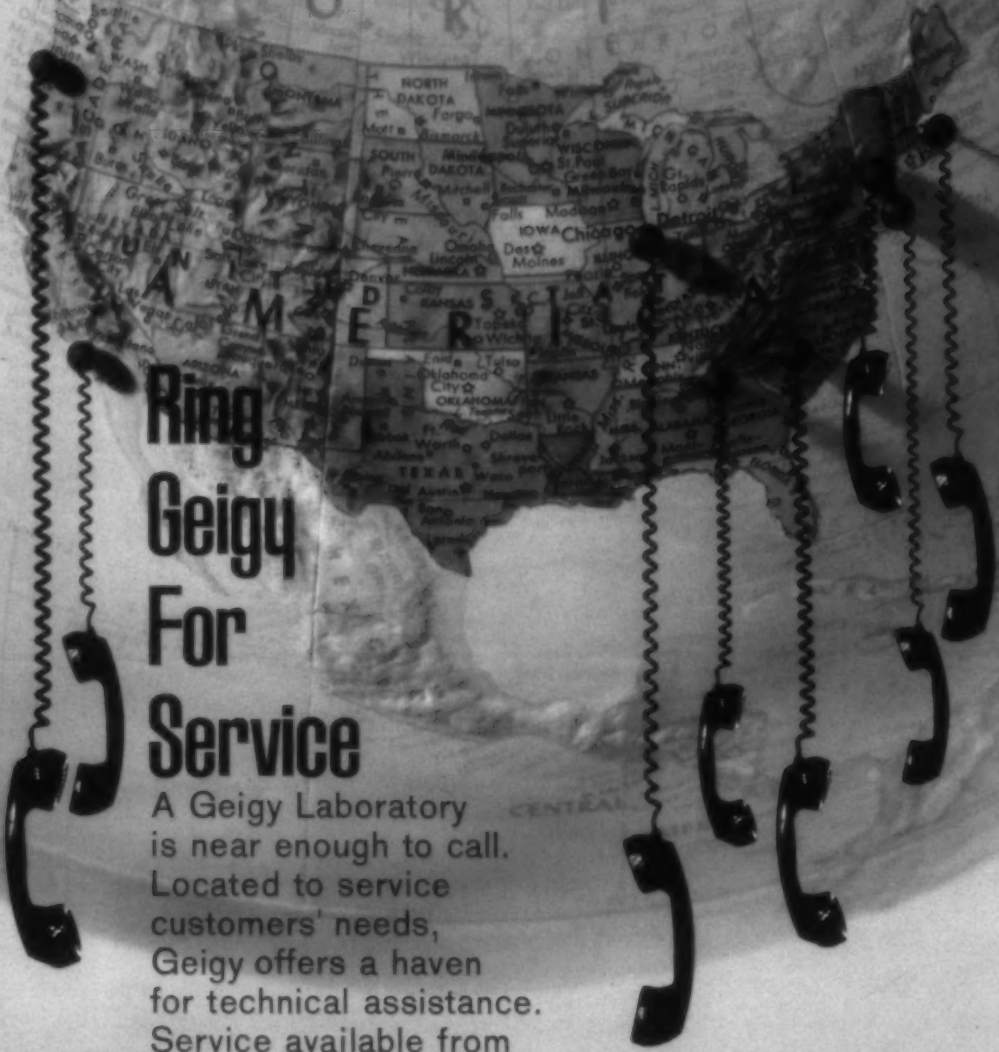
Let a Manhattan roll engineer show you how to get "More Use per Dollar" with Manhattan Slasher Rolls. Ask about the new Textractor and Texroc Rolls for maximum water removal and longer life on your mangles.

RM1088

ENGINEERED
RUBBER
PRODUCTS
... MORE USE
PER DOLLAR



MANHATTAN RUBBER ROLL DIVISION • NORTH CHARLESTON, SOUTH CAROLINA
RAYBESTOS-MANHATTAN, INC.



Ring Geigy For Service

A Geigy Laboratory
is near enough to call.
Located to service
customers' needs,
Geigy offers a haven
for technical assistance.
Service available from
Ardsley, N.Y., Charlotte,
Los Angeles, Portland,
Newton Upper Falls, Mass.,
Philadelphia, Chicago,
Chattanooga.

Geigy Dyestuffs

For The Textile Industry's Use

— NEW MACHINERY, EQUIPMENT AND SUPPLIES —

New Drafting Element

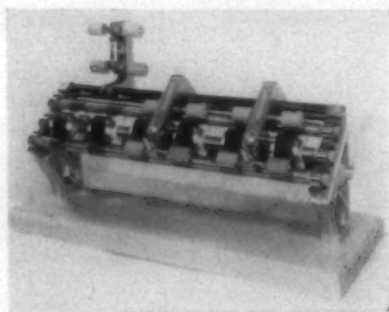
Described as a versatile, new design drafting system for efficiently and economically spinning cotton and staple synthetic yarns of superior strength and evenness, the Roberts FC Drafting unit has been developed and put into production by Roberts Co., Sanford, N. C.

New and improved in the system is an unique cartridge weighting arrangement designed to eliminate all weighting attachments to the roll beam, disposing of the conventional lever screws, weight levers, weight hooks and dead weights.

A versatile, double apron, high draft system with PosiWaste Pendular Arm Suspension, FC Drafting successfully handles coarse or fine yarns from 2s to 120s count, cotton or synthetics and blends, and a broad range of drafts from 10 to 60. It provides proper fiber control, fiber gripping and weight, without the limitations of other systems using short springs, weights or magnets, according to Roberts.

It can be arranged to handle short or long staple cotton, and synthetic fibers from $1\frac{9}{16}$ to 3" long. A choice of cradle lengths and solid or recessed apron top rolls provide this wide flexibility.

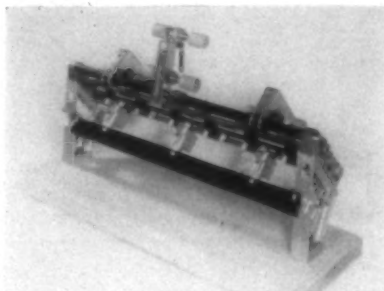
The enclosed spring cartridge attaches to a cartridge bar fastened between roll



Roberts new FC Drafting for cotton system spinning uses an unique cartridge weighting arrangement that eliminates all weighting attachments to the roll beam; disposing of the conventional lever screws, weight levers, weight hooks and dead weights. A precision made spinning element, FC Drafting is, according to Roberts Co., the cleanest running and simplest with the fewest number of parts. It successfully handles coarse or fine yarns from 2s to 120s count, cotton or synthetics and blends, and a broad range of drafts from 10 to 60. Ball bearing bottom rolls on all three lines, shown above, are optional.

stands. A simple cartridge lever is depressed to weight up or unweight the top rolls.

By clearing the roll beam of all weighting attachments, the cartridge weighting arrangement eliminates a source of lint catching. The simple assembly, nylon cradles, elimination of cap bars, and absence of oil in the entire drafting zone, contribute to making this system clean running and easy to clean, reports the company.



Back view of Roberts new FC Drafting for cotton system spinning, showing unique cartridge weighting arrangement which eliminates all weighting attachments to the roll beam and removes an irritating source of lint catching. The PosiWaste Pendular Arm raises in an easy motion by depressing the weight cartridge lever.

The elimination of weight levers, hooks, screws and dead weights reduces total weight on the machine by $\frac{3}{4}$ of a ton per spinning frame. With no dead weights to bounce up and down, the danger of wave action in the yarn is removed.

With FC Drafting, a total weight of 72 lbs. is recommended for cotton, distributed 42% front, 30% middle and 28% back. For synthetic fibers up to 3", larger cots and heavier weighting totaling 100 lbs. are used.

Overall cleaning is said to be exceptionally quick and simple. The weight cartridge lever is depressed, the Pendular arm raised and the apron roll lifted from the cradle and aprons. Tension pins are removed permitting the top apron and cradle to be lifted off. Cots are easily buffed on standard equipment, with tolerances of .001" straightness.

Three choices of roll stand bearings for bottom rolls are available on FC Drafting. These include plain bearing slides, ball bearings on all three bottom

roll lines, or ball bearing bottom roll mounting for the front line only in combination with grease lubricated middle and back slides.

(Request Item No. E-1)

Avicolor Trademark

American Viscose Corp., Philadelphia, Pa., has announced that the new trademark, Avicolor, will be used to designate the company's spun-dyed rayon and acetate yarns and fibers, and fabrics made with those fibers. The new name will replace the former designation, Colorspun. The corporation will permit the use of the name, Avicolor, only on those fabrics which meet the company's quality standards of performance.

With the introduction of Avicolor, American Viscose is enlarging its program of spun-dyed yarns and fibers. Not only has the number of basic colors been expanded but, through the blending of colored rayon staple fibers, a large library of shades and hues is now available for selective color styling.

(Request Item No. E-2)

Ciba Dyestuffs

Three new dyes have been introduced by the Ciba Co., Fair Lawn, N. J. The colors are Benzyl Fast Yellow RLE and two Cibacron dyes—Brilliant Red 2GP and Blue 2R.

The Benyl Fast Yellow RLE is a neutral-dyeing acid dye that can be applied from an acetic acid, ammonium acetate or neutral bath. It will dye wool, silk and polyamide fibers to a bright, slightly reddish yellow. Materials to which it is applied can be discharged to white, reports the company.

The new dye is said to have excellent leveling properties and is especially recommended in combination with Benzyl Fast Red 2BL and Alizarine Fast Blue BE. The dye possesses good fastness to light and good all-round wet fastness. It is suited for use as a brightening color for shading Cibalan dyes and is a good print color for wool, silk and nylon, according to the company.

Brilliant Red 2GP is recommended as

outstanding for printing and pad-steam application. It can be used for the thermofix method of dyeing cellulosics and the dyeing of wool.

The company lists its good properties as giving a bright, full, yellowish red shade; has good build-up in printing; has excellent solubility; is suitable for resin finishes; and has good stability of fiber/dye linkage to acid and alkali.

Cibracron Blue 2R is a reactive dye that is reddish in tone. Ciba described the new dye as one that builds up well; can be used in combination for navies; has good light and wet fastness; is suitable for resin finishes; and is the best reactive blue for the cold pad-batch method of dyeing.

(Request Item No. E-3)

Screw Fastener

The Reliance Division of Eaton Mfg. Co., Massillon, Ohio, has announced the development and production of a new industrial fastener. Called Torqtite, it is basically a new head design that can be adapted to screws, springtites or sems.

The Torqtite head has three equally spaced driving slots on its outer periphery. This feature makes it necessary to use a special tool for driving and, conversely, for loosening. Because of this the fastener is tamper proof and will be used to fasten assemblies where unauthorized tampering might be dangerous. Such items as distributor heads and electrical boxes are ideally suited for the unit.

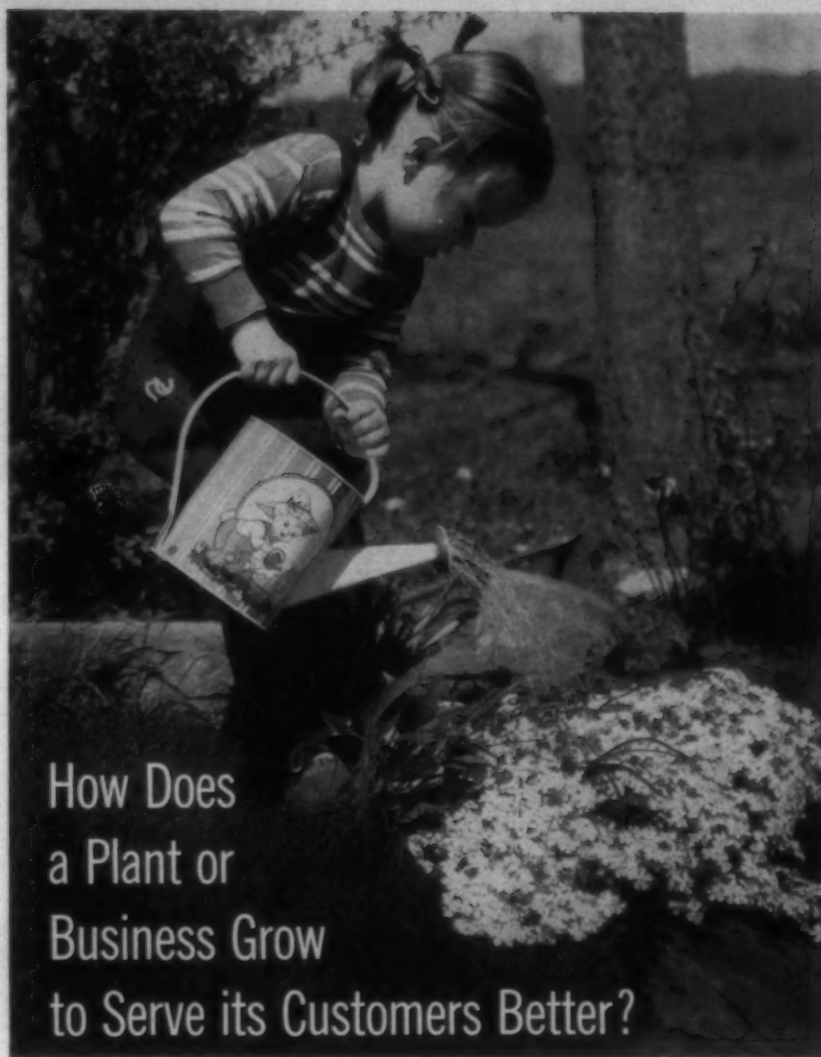
When the fastener is driven, the forces are on the outer periphery instead of in the center thus eliminating head distortion through worn driver bits. It is said to offer a greater driver contact area and helps eliminate driver slippage.

(Request Item No. E-4)

Continuous Bleaching Process With Textone

A new continuous bleaching process that is designed to cut manufacturing costs up to 40% on natural and synthetic fibers has been developed by Olin Mathieson Chemical Corp., Baltimore, Md. The new continuous process utilizes Textone, one of Olin's sodium chlorite products.

Until now, Textone has been used principally in batch operations. Development of the new process, which requires little modification of conventional



How Does
a Plant or
Business Grow
to Serve its Customers Better?

Most businesses are highly competitive. Ours is no exception. Yours probably isn't, either. How then—in face of stiff competition—does a business grow, expand its facilities, products, and services?

There is only one answer, based on our experience, which has led to steady growth and development during the past few years: *dedication*.

Dedication to product quality. Dedication to service. Dedication to meeting customer requirements.

Today TPP serves you from 5 strategically located plants, each capable of producing a complete range of tubes and cores of the finest quality.

If you are looking for a dependable source of tubes or cores, it will pay you to talk with us.



TEXTILE PAPER PRODUCTS inc.

*Specialists in tubes
and cores for textile
and paper industries*

CEDARTOWN, GEORGIA Home Office and Plant
Other Plants In: Carlyle, Illinois — Crossett, Arkansas
Jacksonville, Florida — Mobile, Alabama

America's Finest Lubricants
Since 1919



QUALITY LUBRICANTS

**EXPERIENCE
PLUS
SERVICE**

**Means Better Lubrication
For Your Mill**



NEWT COGGIN

For many years in the mill supply business in Jacksonville, Florida, moved to South Carolina with Georgia-Carolina Oil Company on a trial basis in October 1953. Newt and the family liked Anderson, S. C. so well they decided to stay and have been there since. Newt is a Coast Guard veteran, having been discharged in Nov. 1946 as a Chief Petty Officer. When not working he devotes his time to his children Dinah and Bobby and to his hobbies of golf, fishing and horses.

Address All Inquiries To —

**GEORGIA-CAROLINA
OIL COMPANY**

P. O. Box 101 Phone SH 2-1428
MACON, GEORGIA

FOR THE TEXTILE INDUSTRY'S USE—

equipment, extends its use to the continuous bleaching of cotton, synthetic fabrics such as rayon, nylon, Acrilan, Dacron and blends of natural and synthetic fibers.

Savings in the sodium chlorite method over continuous peroxide bleaching are realized in material costs, according to the company.

A new 8-page technical bulletin describing the new process is available. It includes information on construction materials, and Textone storage, properties, handling precautions and application. There are supporting graphs and tables.

(Request Item No. E-5)

Nonionic Water Dispersions

Collway Pigments, a division of General Aniline & Film Corp., New York City, has entered the nonionic pigment dispersion field with ten free-flowing, nonionic water dispersions for simplified latex emulsion formulations.

The ten new shades are said to have superior dispersion and coloring properties for application in latex-backed carpeting, vinyl-backed furniture fabrics and coloring of nonwovens. Coloration of the resin binder in nonwovens, usually a latex, acrylic or styrene-butadiene, is best accomplished with the use of nonionic pastes, reports the company. Additional applications may be found in adhesives based on polyvinyl acetate.

Collway's range of nonionic pigment dispersions are designed to offer a number of advantages; highest formulation dependability; outstanding tinctorial value in all aqueous systems; non-flocculating and non-flooding properties; improved stability to processing temperature; and faster, cost-saving operations.

The color range available includes

the following shades: Hansa Yellow 10GN Paste 11-1027; Hansa Yellow GN Paste 11-3027; Helio Brilliant Orange RKN Paste 29-5027; Permanent Red FEN Paste 35-3027; Permanent Carmine FRN Paste 35-5027; Permanent Violet N Paste 49-6027; Heliogen Blue N Supra Paste 56-5026; Heliogen Green N Supra Paste 66-3026; Heliogen Viridine N Supra Paste 66-6026; and Permanent Black N Paste 84-4097.

(Request Item No. E-6)

Wash-And-Wear Finish

The achievement of a new non-resinous finishing process for cotton cloth has been announced by Joseph Bancroft & Sons So., Wilmington, Del.

The company reports that the principles involved are based on the concept of permanent modification of the cotton fibers by a chemical process that, while completely excluding resin, adds substantially to the comfort, stability and wash-and-wear properties of the fabric. Because of these factors, it is believed that the most important immediate application will be to fabrics for men's dress shirts. Other end uses include work clothes, domestics and uniforms.

This new process is similar to the one which the Bancroft Co. developed for rayon several months ago.

The absence of any resin and the permanent change in the chemical composition of the fibers are designed to assure a durable wash-and-wear performance that is guaranteed for the life of the garment, according to Bancroft. Regardless of the frequency or method of laundering, the stability is permanent, with no progressive shrinkage and the crease resistance and wrinkle recovery are sharply improved in both the wet and dry states.

Lack of resin is also said to assure increased absorbency, a soft, pliable,

Management profits from group plans tailored by the Pilot

Your operation will show a greater net profit from improved employee relations, increased competence of attracted personnel and reduced labor turnover. Write or wire

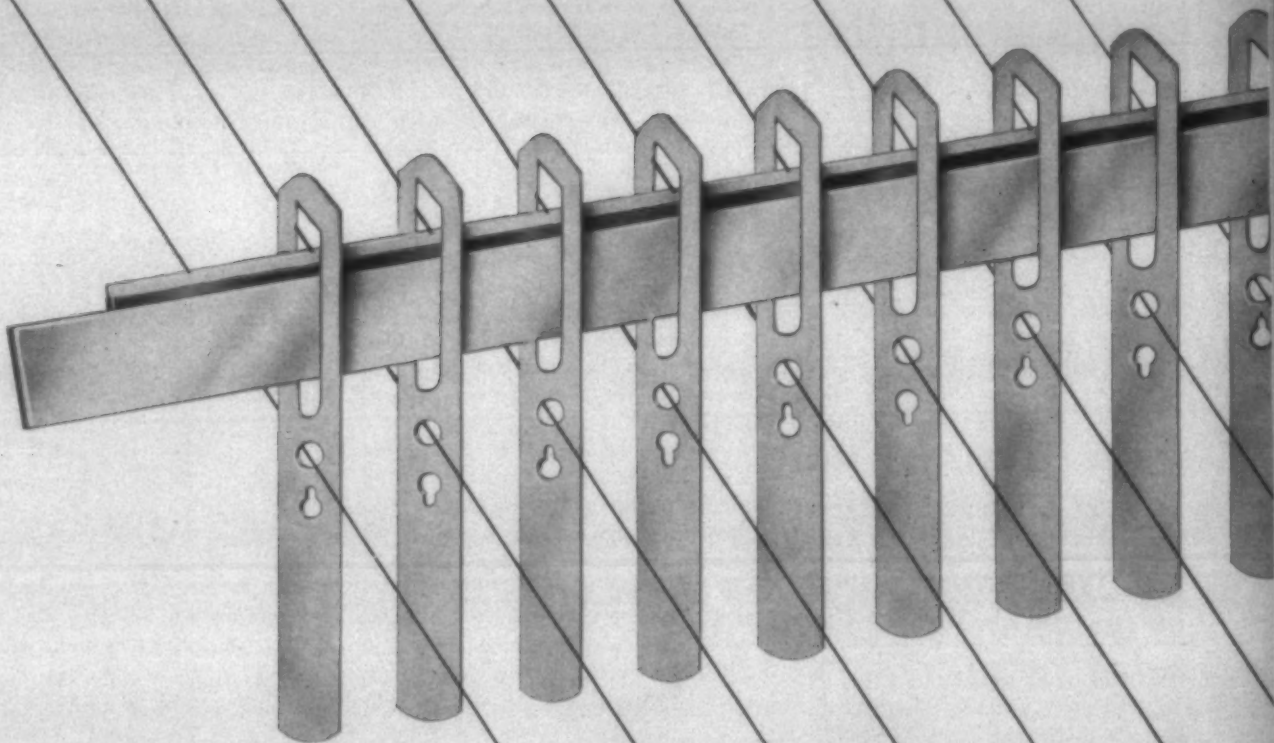
Pilot Life Insurance Company

GROUP DIVISION • GREENSBORO, NORTH CAROLINA
PILOT TO PROTECTION FOR OVER FIFTY-FIVE YEARS • O. F. STAFFORD, PRESIDENT



Stehedco DROP WIRES

Guard Your *Quality*



Your drop wires are important, too, in maintaining the high quality you expect from your looms.

Stehedco Quality Drop Wires are designed and manufactured under the same strict Quality Control as all other Stehedco Quality Products—and are equally as dependable.

Premium quality materials are used, and the same expert care is used in their manufacture, to assure you the finest drop wire your money can buy. Dependable performance and longer trouble-free life are the reason for their great popularity.

Equip your looms now with top quality Stehedco Drop Wires and eliminate costly seconds from broken ends. Any type, any size can be made to fit your requirements.

Ask one of our qualified Sales Engineers to show how you can improve your production and profits by using Stehedco Quality Drop Wires.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

D-6014

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N.C. • Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.



**"THIS LUBRICANT
CUT OUR
LUBRICATION
COSTS IN HALF"**

says-PHILADELPHIA QUILTING CO.

"Trouble from conventional greases floating off hot shafts of our quilting machines caused us to try a LUBRIPLATE Lubricant. It proved so satisfactory that we are now using it as an 'all-purpose' grease throughout our plant. We feel that LUBRIPLATE is saving us 50% in lubrication costs."

*W. Szczepanski,
Chief Maintenance Engineer*

**REGARDLESS OF THE SIZE AND
TYPE OF YOUR MACHINERY,
LUBRIPLATE GREASE AND
FLUID TYPE LUBRICANTS WILL
IMPROVE ITS OPERATION AND
REDUCE MAINTENANCE COSTS.**

LUBRIPLATE is available in grease and fluid densities for every purpose... LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.



For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK"... a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



FOR THE TEXTILE INDUSTRY'S USE—

non-irritating hand and to offer absolute protection against any yellowing or loss of strength due to chlorine retention. If desired, any bleach may be used in normal amounts. The process is completely compatible to resin, with little or no resulting degradation.

The chemicals involved in the process are said to be relatively inexpensive and equipment is essentially the same as that used for resin finishing. The new formula combines the comfort of cotton with the durable wash-and-wear performance of synthetics — properties which remain permanent for the life of the garment, reports Bancroft. The process is designed not only to add to the easier care of end-use garments but to increase the life as well.

Fabrics treated by the new process can be easily washed at home or by commercial laundry, and may be drip, tumble or spun dried. Repeated launderings actually improve rather than impair the many wash-and-wear properties, Bancroft reports. Drying time is reduced by as much as 30% in comparison with cottons finished in the usual manner. There are no odor or chlorine retention problems with these fabrics and they have a lasting resistance to perspiration, mildew and bacterial damage.

From a practical finishing standpoint, the processing is said to involve new, continuous, but comparatively uncomplicated procedures, utilizing commonly available equipment. Hence, a commercially uniform product is obtained with a minimum of production problems and capital investment, the company reports.

(Request Item No. E-7)

Fabric Weighter

A new fabric weighter, Ecco OVD, has been introduced by Eastern Color & Chemical Co., Providence, R. I. The new weighter is designed to impart full-

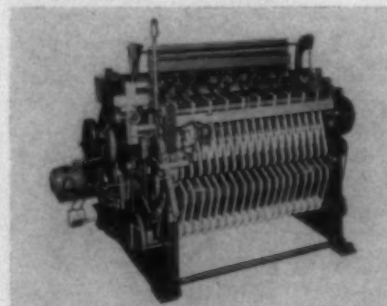
ness of body and weight to cotton and synthetic fabrics with a minimum effect on shades of colored fabrics and with a moderate amount of stiffening.

A completely water-soluble, granular solid, it is completely compatible with softeners, finishing oils and most other auxiliaries, Eastern reports. It may be used in combinations to give a variety of finished hand.

In application, Ecco OVD is dissolved by agitating in water previously warmed to 55-60° C. Application is then made by padding or in a quetsch at approximately 130° F. (55° C.) with other agents. Normal drying conditions are sufficient.

(Request Item No. E-8)

Narrow Fabric Loom



A new narrow fabric loom that is designed to lower cost and increase production has been developed by Bowser & Associates Inc., Red Hill, Pa.

The compact unit measures only 47" in overall height. The harness and cams have been eliminated on the new unit. If either the filling or warp breaks or the quill runs out, the machine automatically stops on the pick and a red light signals the operator. With a maximum of 20 shuttles per machine, less production is lost when machine is stopped for breaks or reloading, according to the company.

Cruising speeds of 200 to 250 p.p.m. assure high production. Automatic fea-

LENGTHEN - SPREAD - RECONDITION

Flyers converted to fit your present needs. The "Price" way cuts costs on conversions by lengthening and spreading Flyers to produce larger packages. Let the "Price" way be your way to save money on all your Flyer and Presser problems.

Write or Call

PRICE SPINDLE & FLYER COMPANY, INC.

Phone 8829

Box 401

Spartanburg, S. C.

tures enable an operator to handle more machines with less downtime. Parts are said to be simplified and less costly. Most moving parts operate on ball bearings to cut power requirements and provide longer life.

(Request Item No. E-9)

Totally Enclosed Motors

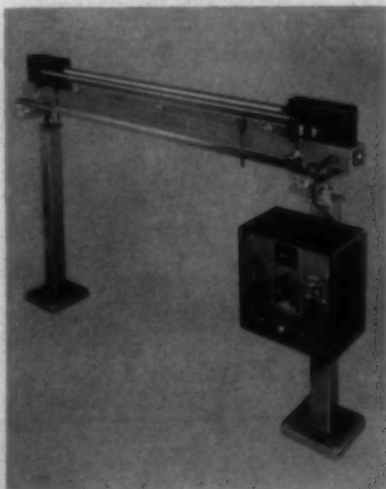
A new, complete line of fractional horsepower motors especially designed for use in the lint-laden atmospheres of the textile industry has been introduced by the General Electric Co., Schenectady, N. Y.

The totally enclosed, non-ventilated, three-phase, Form G units are rated from $\frac{1}{4}$ to $\frac{3}{4}$ h.p. and 220/440, 220/380 and 550 volts. The $\frac{1}{4}$ h.p. models are in N.E.M.A. frame sizes 48 and 56; all other models are N.E.M.A. frame size 56.

The new motor line features continuous duty operation at 55 C. rise; single-shielded ball bearings that carry heavy thrust loads and are highly resistant to oxidation and moisture; a large built-in connection box that permits easy electrical connection; a gun-metal-like shaft treatment that combats rust and corrosion; and a strong, steel base, securely welded to shell to withstand shock and vibration.

(Request Item No. E-10)

Warp Yarn Inspector



A fully transistorized warp yarn inspector developed by Lindly & Co. Inc. of Mineola, L. I., has been designed to automatically control yarn quality and considerably reduce warping costs.

The electronic control unit—called the Lindly Ultra Yarn Inspector Series 1000—is being marketed by Foster Ma-

chine Co. of Westfield, Mass. According to Lindly, the new unit is a completely redesigned successor to the Lindly Model "B" and Series 600 Multi-control Units which have been in use for more than five years.

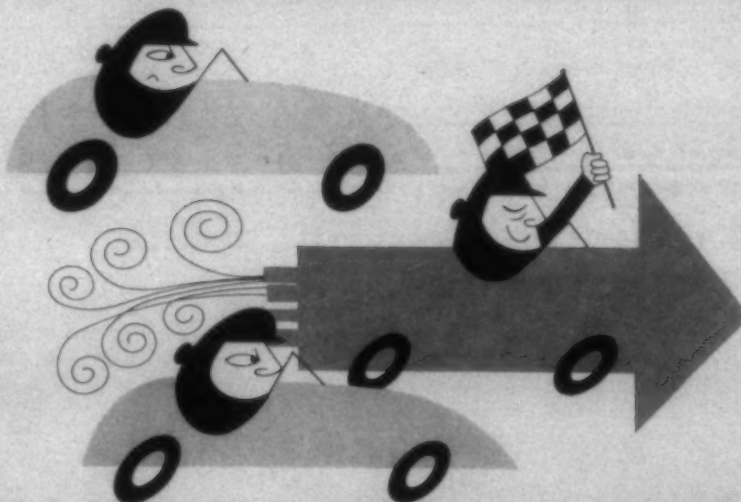
The new Inspector consists of a detecting head mounted on solid floor stands of adjustable height and a compact electronic control unit which can be mounted remotely or attached to either of the legs. The detecting head features the Ultimat lens unit and a Lindly designed lamp, with a simpli-

fied alignment adjustment. It is available for warp beam widths of 21", 36", 42", 54", 72", 90" and other widths to order are available, according to the company.

Any one of three fully transistorized control units are available with the Ultra Yarn Inspector to meet varying control demands. The Model 1050 Single Level Control Unit is designed for applications where it is desired to detect and count the defects and stop the warper for their removal. For applications where it is desired to detect yarn

exsize

for extra-fast desizing!



Why do so many experts prefer **EXSIZE**?

- because of controlled uniformity
- because of high heat stability
- because of high enzyme strength

These extras mean safe, dependable, speedy desizing. Keep your desizing section ahead in the production race.

Order **EXSIZE** soon... for more than 40 years, the world's finest desizers.

Write today for your free copy



INDUSTRIAL PRODUCTS DIVISION
PABST BREWING COMPANY
Milwaukee, Wisconsin

FOR THE TEXTILE INDUSTRY'S USE—

defects on two different sensitivity levels, a Model 1060 Dual Level Control Unit is available—and if length of defect is also a factor, the Model 1070 Dual Level Control Unit with Length Selector can be provided.

(Request Item No. E-11)

Metal Coolant System

Trico Fuse Mfg. Co., Milwaukee, Wisc., has introduced the Type C Trico-Mist coolant system designed for cooler, faster and cleaner work on metal cutting tools and stamping operations.

Designed to give the operator safe, visible control of the mist volume, the machine incorporates air and coolant valves located separately from the container and near the mist nozzles.

The system consists of three basic parts: the coolant container, dual control valve assembly and the dual tube assembly. Manifold block outlets on the cover of the container are connected to the control valves by dual nylon tube assemblies (available up to 10').

The valve assembly consists of two compact precision valves that control

the air and coolant volume. As many as six independently controlled nozzles can be serviced from one container. The Kwik-Change nozzle is protected by a special guard and comes complete with a holding clamp.

The mist spray is generated by the specially designed nozzle, using compressed air from the shop air line (50 to 125 lbs.). There's no pressure in the container at any time. The nozzle directs the mist spray to the cutting edge of the tool or work. All heat is dispersed instantly by the rapid movement of the expanding air and by evaporation of the coolant.

(Request Item No. E-12)

Electronic Flame Hardening

A new electronically controlled flame hardening service for the textile industry, said to exactly duplicate the desired degree of heat and hardness in metal parts having identical specifications, has been announced by Ramsey Southeast Corp., Charlotte, N. C.

Called the Flamatic, it is designed to pin point the area to be hardened and to eliminate plating, stripping, clay packing or masking, resulting in a fas-



Pushbutton photo electric eye replaces the human eye to control and duplicate the degree of flame hardening in metal parts having identical specifications.

ter, more economical operation. A photo electric eye replaces the manually manipulated heat application for surface hardening. The electronic eye detects and controls by color, the exact pre-set degree of heat exposure, according to the company.

The operator is required only to load the spindle with the part, pre-set the desired temperature and push the starting button. The Flamatic machine is automatic thereafter—positioning and igniting two or more gas burners, obtaining the desired hardness, quenching and removing the treated part. A three-inch gear requires approximately 12 seconds to harden. The electronically hardened gears are said to average up to four times longer life and accuracy than those treated by estimating with the human eye.

(Request Item No. E-13)

MORE drying can "MILEAGE"

I.C. TEFLON* COATINGS STILL RUNNING AFTER FIVE YEARS!

Many mills report that TEFLON* coatings, applied by I. C., have been in continuous operation on drying cans for over five years and are still giving fully satisfactory service . . . positive proof that I. C. coatings last longer and cost less.

I. C.'s tough, residue resistant TEFLON* finishes are guaranteed to give more production "mileage" on your equipment. I. C. also specializes in the application of non-corrosive tank linings. Next time, specify INDUSTRIAL COATINGS.

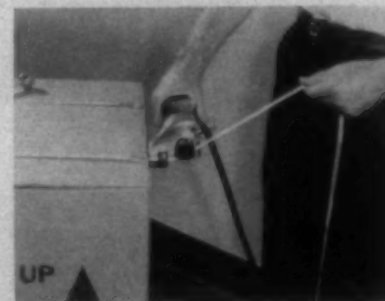


*DuPont's TFE Fluorocarbon Resin

INDUSTRIAL COATINGS, INC.

PIONEER TEFLON APPLICATORS IN THE SOUTH ATLANTIC STATES
Box 1567 Greenville, S. C. TEL CEder 5-3573

Cord Strapping Tool



Two mechanized pneumatic tensioners and a new heavy-duty Avistrap cord strapping have been introduced by the industrial packaging department of American Viscose Corp., Philadelphia.

The new Avistrap Mechanized Pneumatic Tensioners, Model AVN-1, a pusher type; and Model AVN-2, for large pallets and general use were included. The tensioners are light weight (under 4 lbs.), easy to handle, and relatively inexpensive for semi-automatic tools, American Viscose reports.

The Pneumatic Tensioners can handle all widths of Avistrap, from $\frac{1}{4}$ to $\frac{3}{4}$ ". The new tools are designed to speed shippers' operations, and also decrease workers' fatigue; in addition, tensioning is pre-determined, thus eliminating guess-work tension on unit and pallet loads.

American Viscose also introduced two new heavy-duty rayon straps and newly-designed heavy-duty dispensers. The Avistraps are being designated Type 55, $\frac{3}{8}$ " heavy-duty strapping which comes in a 1400-yd. coil; and Type 65, $\frac{3}{4}$ " heavy-duty strapping, on a 1134-yd. coil. Both new straps have the equivalent yardage of two coils of comparable steel strapping—but weigh just 38 lbs., or $\frac{1}{5}$ as much as metal strapping. Separate dispensers are available for Type 55 and Type 65 Avistrap, and both stationary and portable dispensers are offered.

The five basic widths of Avistrap range from $\frac{1}{4}$ to $\frac{3}{4}$ ", and are Types 20, 30, 40, 50 and 60 in $\frac{1}{8}$ " variations. Heavy-duty Types 55 and 65, in the same widths as Types 50 and 60, are 25 to 30% stronger for applications where more strength is required.

(Request Item No. E-14)

Plastic Tag Protector



Ordinary paper tags may now be used where more costly metal tags have previously been required, according to the Bedford Products Inc., Roanoke, Va. The company has introduced a clear plastic tag protector that is designed to protect the paper tag from weather elements when used outside on transformers, terminals, disconnect switches, etc. Also it is recommended for indoors use where tags are required on switches, ma-

chinery, important parts, etc., and are subject to becoming soiled easily. The paper tag remains legible indefinitely when used in the plastic tag protector.

The tag is built to be used many times and affords a means of economy, the company reports. It is available in three sizes and can be used with any standard size paper tag.

(Request Item No. E-15)

Polyethylene Resins

Two new polyethylene resins for extrusion coating and laminating at high speeds and low temperatures have been introduced by Monsanto Chemical Co.'s plastics division, Springfield, Mass.

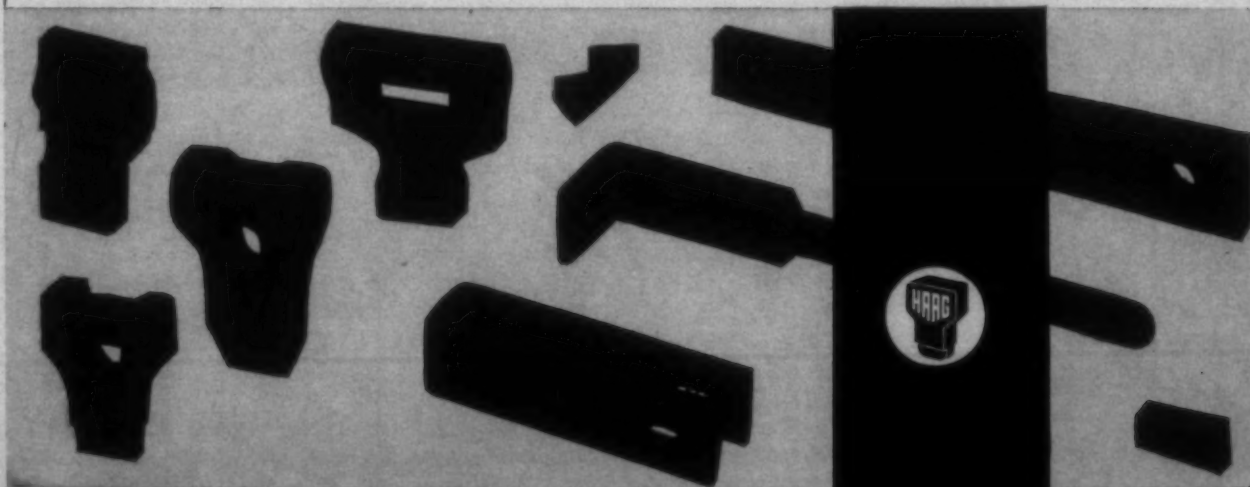
The new resins, designated MPE 70 and MPE 72, are designed for applying a tough coating or innerlayer of polyethylene to textiles. Such a coating is said to impart resistance to moisture vapor, grease and oil.

Field and laboratory evaluations of the new extrusion coating resins show that their melt indices and densities provide the best balance between adhesion, heat seal range, neckdown and draw-down. MPE 70, which has been extended to six pounds a ream (less than $\frac{1}{2}$

Durolen Pickers and Lug Straps

An improved method of manufacture plus special tempering of sections exposed to peak stresses ensure longest life. Savings through reduced purchases. Less loom stoppages. Several times the life of buffalo hide. Lower maintenance costs. These are some of the benefits offered by "HAAG" DUROLEN PRODUCTS - tried and proved throughout the world.

Exceed in Durability



ALBERT HAAG KG WEIL DER STADT W.GERM.

DISTRIBUTORS:

Oliver D. Landis Inc.
1805 W. Franklin Ave.
GASTONIA N.C.

Tatem Manufacturing Co.
EASTFORD
Conn.

HAAG

The Button **NEVER COMES OFF**

Ideal's New One Piece Lap Stick

The button on this picker lap stick *can't* loosen because it is an integral part of the stick itself. This eliminates costly repairs due to loose buttons and pays dividends in better work and longer service.

Ideal Lap Sticks are made of special alloy steel, induction hardened to increase rigidity. They will carry much heavier laps without bending or warping. All Ideal lap sticks are precision machined to your specifications and weights are controlled to plus or minus 1/4 ounce.



Write
for
Full
Information
TODAY!

Ideal Machine Shops, Inc.
Bessemer City, N. C.

Continuous Service to Textile Mills Since 1925

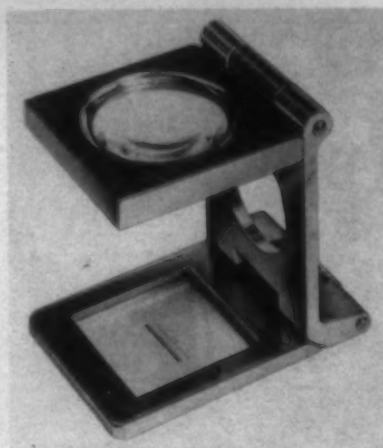
FOR THE TEXTILE INDUSTRY'S USE—

mil), is particularly suited for low temperature extrusion, which permits greater control of extrusion odor and heat seal degradation.

MPE 72 is said to be used successfully for coatings and laminations of 1/4 mil and less. It is designed to offer excellent adhesion and heat seal properties with acceptable neckdown on high-speed coating operations.

(Request Item No. E-16)

Micrometer Magnifier



The X5 folding micrometer magnifier, complete with measuring graticule, has been introduced by The Ealing Corp., Cambridge, Mass. The machine is designed to fill the gap between rough estimation with a scale and elaborate measurement.

The magnifier has a field of view of one square inch. Its scales are on opaque white and the reading accuracy is reported to be to within .002".

(Request Item No. E-17)

Supralan Dyes

General Dyestuff Co., a division of General Aniline & Film Corp., New York City, has announced the addition of two new dyestuffs to its Supralan line—Black GCL and Brown RB-CF.

The black dye supplements its companion color Supralan Black NB-CF—in offering related clean black and gray shades on wool, silk, nylon and other synthetic fibers, including Creslan, Dynel, Verel and Zefran. Having the same features as the Supralan neutral-dyeing metalized acid colors, these dyes are said to feature economy in full shades and a direct cycle with maximum fiber protection.

Dyeing and fastness properties of the

two dyes are virtually alike, the main difference being in cast of shade. Supralan Black GCL-CF is somewhat the greener and jetter of the two, especially under incandescent lighting. Both dyestuffs can be readily applied in self or fashion shades by regular methods currently in use for applying neutral-metalized colors.

Brown RB-CF is a neutral-dyeing metalized acid dyestuff offering a bright medium brown shade on wool, silk, nylon, acrylic and modacrylic fibers. This color is designed to meet the high standards of the group in its good dyeing and shade fastness properties, according to the company.

The dye is recommended for dyeing full, rich self shades of chocolate brown, or in combination with other Supralan dyes for producing taupes, tans and cordovans for many end uses such as upholstery, carpeting and apparel fabrics, according to the company.

(Request Item No. E-18)

A New Approach To Sliver Can Springs

For many years the most widely used type of spring for sliver cans was the type referred to as the Peg-Leg (Fig. 1), so called because it rests on a point rather than a flat surface. As can be seen in the drawing, the bottom of the spring is free to shift to any side of the can, thereby causing the metal top to become unlevelled or biased in the can. The clearance caused by a tilted top can allow the sliver to bypass the top and enter the bottom of the can. Conversely, when the sliver is removed, stock which has bypassed the top can be pinched, stretched or broken, with resulting lost sliver left in the bottom of the can as waste.

An attempt at remedying this feature of the Peg-Leg was a spring with a full coil at the bottom of the can (Fig. 2).



Fig. 1

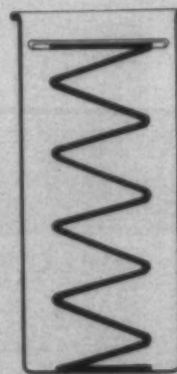


Fig. 2

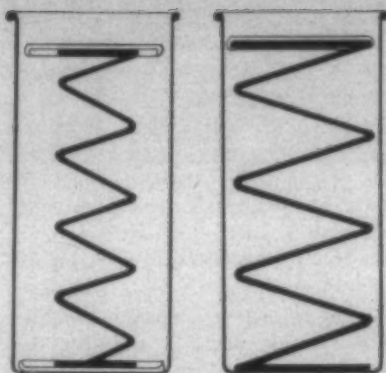


Fig. 3

Fig. 4



Fig. 5

Like the Peg-Leg, this type had a regular top and was wound to considerably less diameter than the can itself. And again like the Peg-Leg, it could still shift at the bottom of the can, causing the lid to tilt.

The next step went the Peg-Leg one better by adding a lid to the bottom of the spring (Fig. 3) to keep the spring centered in the can. The extra lid prevents the spring from shifting, but not from bowing or jackknifing, either of which allows the top to tilt the same as in the other types.

To minimize this jackknifing, a new type spring (Fig. 4) has been developed with a coil diameter slightly less than the container itself. To prevent shifting it has a full coil in the bottom of the can.

Still another advanced type is shown in Fig. 5. It has a piston type top used with a full coil in the bottom of the can with a coil diameter slightly less than the container and with the spring extended beyond the top of the can. This type is specifically designed for high speed drawing coilers. The top is equipped with a clip welded across the center hole which provides a means for adjusting the piston top to the proper height by tying a string from the clip to the bottom of the spring coil. This acts as a check or stop.

On high speed coilers the piston lid has to be above the can for the lid to be adjusted against the coiler head properly. When so arranged, the coilers will start building the proper pattern because there is a slight pressure against the coiler head. This also prevents the sliver from slinging off the lid.

(Request Item No. E-19)

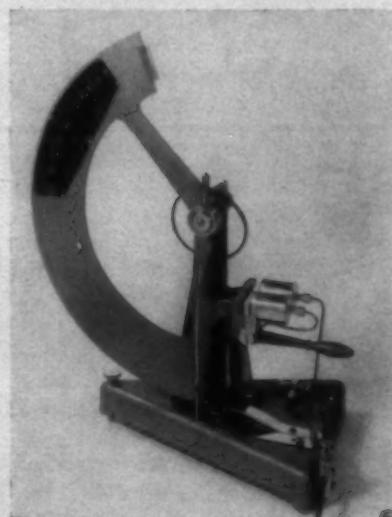
Rubber-Coated Door

Clark Door Co. Inc., Newark, N. J., has introduced its Clark Durador for industrial use. Combining all the assets of a rigid rubber door with a flexible curtain, the Durador is designed to absorb rather than resist impact by fork trucks.

Incorporating full length flexible rubber hinges, the door is designed with a core of warp-resistant $\frac{3}{8}$ " marine plywood covered by a permanently bonded $\frac{1}{4}$ " live-rubber coating at the bottom half and $\frac{1}{8}$ " at the top half. Leading edge protection is ensured by a protective layer of $\frac{3}{8}$ " rubber coating.

(Request Item No. E-20)

Air Grips For Tearing Unit



Thwing-Albert Instrument Co., Philadelphia, Pa., has announced the development of new air-operated grips for the Elmendorf Tearing Tester. The grips are designed to enable the operator to test twice as many samples in less time with greatly reduced operator fatigue. Samples can be inserted and removed in one easy operation without turning any screws, the manufacturer reports.

The grips use air pressures as low as 15 lbs. and assure uniform clamping pressure on the sample at all times.

(Request Item No. E-21)

Ideal Picker Lap Pins



INDUCTION HARDENED for Longer Life

Ideal's induction hardening process is far superior to methods ordinarily used in picker lap pins. When applied only on the journals it materially increases bearing life. When applied over the entire surface of the pin, it also eliminates the nicks and burrs otherwise caused by normal use.

Ideal picker lap pins are made with either smooth or fluted surfaces. Let us give you full information on these improved lap pins.

Ideal Machine Shops, Inc.
Bessemer City, N. C.

Continuous Service to Textile Mills Since 1925

For the Mill Bookshelf

Drimarene Dyestuffs

Two literature items relating to its Drimarene dyestuffs have been published by Sandoz Inc., New York City.

In a folder which is an appendix to Pattern Card No. 1426, "Drimarene-Z, Practical Experience," Sandoz describes a resist printing process which gives strongly contrasting half-tone shades. Glucose or Lyogen DK are the resisting agents used, and the resist paste can be printed under or over the other print colors. The formulas for the Drimarene prints are the same as those for normal printing on cellulosic fibers, and the steaming and washing-off operations also remain unchanged.

The use of Drimarene dyestuffs for dyeing cotton and regenerated cellulosic fibers by the pad-roll process is described in an appendix to Shade Card No. 1400. The method is described as simple, and due to the easy removal of unfixed dyes, extremely good wet fastness is said to be obtained.

(Request Item No. E-22)

Shadograph Scales

A new 8-page, 2-color illustrated catalog from Exact Weight Scale Co., Columbus, Ohio, describes its weighing equipment for industrial, laboratory and commercial applications.

Shadograph scales are predetermined weight scales with a 1:1 ratio even balance lever to provide high sensitivity. They are designed primarily for repetitive weighing to measure how each of a series of articles compares with an adjustment weight standard.

The Shadograph weighing principal utilizes the projected shadow image of a light as the weight indicator rather than a mechanical pointer or other type of dial indicator, which eliminates mechanical indicator friction. The sharp shadow-image is projected on a frosted glass screen, making reading easier, faster and more accurate by eliminating parallax indicator readings.

Shadograph scales can also be equipped with electronic readout systems offering a low cost automated method for checkweighing products, packages or production units. Applications can be limited to simple sampling techniques, or extended with closed loop feedback

controls for process or manufacturing operations.

Catalog Form 3333 describes and presents full specifications on more than 30 different Shadograph scales ranging in capacity from 50 gm. to 100 lbs.

(Request Item No. E-23)

Dry-Type Air Filter

A product bulletin describing the new high efficiency Dri-Pak dry-type unit air filter has been released by American Air Filter Co. Inc., Louisville, Ky. Bulletin No. 228 illustrates and explains the company's new lightweight filter which is designed to answer the demand for a unit filter of high efficiency, low resistance, compactness and unusual dust holding capacity.

The new bulletin describes its uses, construction, installation, operation and holding frame arrangements. Also included are dimensional drawings, performance data, space requirements and suggested specifications.

The new Dri-Pak inflates when a ventilation system is in operation, deflates when the system is shut down and has the highest ratio of media area to face area in any filter of its type, according to the company.

Each unit weighs just 4 lbs. Two units are shipped in a carton measuring just 8" deep and weighing 10 lbs.

Advantages listed by the manufacturer are: (1) handles more air than any other dry filter; (2) eliminates need for costly, rigid, back-up wire grid and metal enclosure; (3) collapsible, disposable cartridge requires less space for storage and service; (4) easier to service since the unit in folded state is less bulky; (5) less care is required in installation since wire grid is not required; and (6) unique design greatly reduces chance of dirt falling out when the cartridge is being removed for disposal.

(Request Item No. E-24)

Automated Material Control

A new management-oriented publication discussing material handling automation systems is available from the General Electric Co., Schenectady, N. Y. It is designed to be of interest to all who are concerned with cost reductions

in the handling of incoming materials and work in progress or finished goods distribution, company engineers report.

The 8-page brochure defines the General Electric concept of Automated Material Control (AMC) and lists the benefits to be obtained from such systems. The close tie between material handling automation and related data processing functions is illustrated.

The publication cites five major material handling functions performed by AMC systems: identify, dispatch, store, recall and deliver. It describes how these functions are used for sorting, order filling and similar applications. Photographs and illustrations are included in the bulletin pointing out recent installations of AMC systems and components manufactured by the company. A section on how to begin planning for an AMC program is also included.

(Request Item No. E-25)

Starch Cooker

A new 20-page brochure describing the latest applications of Staley's automatic Jet Cooking System has been released by the A. E. Staley Mfg. Co., Decatur, Ill.

The system is designed to do away with batch starch cooking difficulties and automatically provides a continuous flow of starch paste with consistently uniform concentration, cooked properties, temperature and viscosity. The system is adaptable for either bagged or bulk starch.

(Request Item No. E-26)

Trolley Conveyors

What a trolley conveyor can do to reduce manufacturing and handling costs and how to select the right trolley conveyor for any requirement are the two main topics of a new 58-page book, 2730, "Trolley Conveyors," recently issued by Link-Belt Co., Chicago, Ill.

Examples of many installations—from small, relatively simple jobs up to the most complex systems found in some of the most highly complex plants—are shown, with combinations of photographs and layout drawings. The book also shows how trolley conveyors aid in such tasks as washing, finishing,

drying, baking, cooling, assembly, testing and storage.

Included is complete information for design of a trolley conveyor system, with appropriate components, supports, superstructures and guards. Complete tables of materials, dimensions and specifications of components, easy-to-read drawings and cutaway photographs showing construction features are given.

Book 2730 also contains information on Trukveyors, a conveying medium for towing four wheel platform trucks and dollies, and Link-Belt's power-and-free conveyors which combine powered trolley conveyors and unpowered monorail-type free conveyors that route, store and circulate.

(Request Item No. E-27)

Precision Switches

A new 20-page catalog, covering a representative selection of products from the complete Micro Switch line of precision switches for industrial, commercial, data processing, airborne and electronic applications has been published by Micro Switch, Freeport, Ill., a division of Minneapolis-Honeywell Regulator Co. Designated Catalog 104, it features photos and condensed descriptions of over 200 items, including miniature switches, special purpose switches, electronic switch-circuit assemblies, lighted pushbutton switches, toggle switches, limit switches, proximity switches and mercury switches.

(Request Item No. E-28)

Degradation Of Cellulose

Biological Degradation of Cellulose, by John A. and Margaret M. Gascoigne, has been published by Butterworth Inc., Washington, D. C. The 264-page book places special emphasis on the enzymatic action taking part in the hydrolysis of carbohydrates. It also covers the occurrence, purification and mode of action of these enzymes.

The new book particularly describes the enzymic decomposition of cellulose and hemicelluloses and its importance in the field of textiles. The goal of the book is to deal with enzymic processes, rather than to describe the effects of micro-organisms and their prevention. It covers: the chemistry and physics of cellulose; enzymes involved in reactions of beta-linked glycosides, sources of celluloses; purification of celluloses; properties of cellulolytic enzymes; hemicelluloses; industrial significance of celluloses.

The book may be obtained from But-

terworth Inc., 7235 Wisconsin Avenue, Washington 14, D. C., at a cost of \$8.00.

Textile Testing Handbook

The "Handbook of Textile Testing and Quality Control" by Elliot Grover, professor of yarn manufacturing, and D. S. Hamby, professor of textiles, department of fiber and yarn technology, North Carolina State College School of Textiles, Raleigh, has been published by the Textile Book Publishers.

The book deals with testing methods

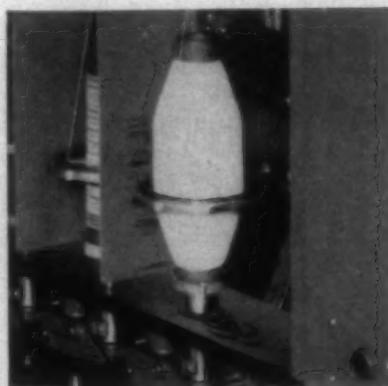
from a new point of view. It is designed to emphasize the evaluation and interpretation of the tests from the standpoint of modern quality control theory and practice, without neglecting the description of testing procedures.

It is expected to be of assistance not only in selecting and performing tests, but also in understanding the significance of their results for process control and performance of the finished products.

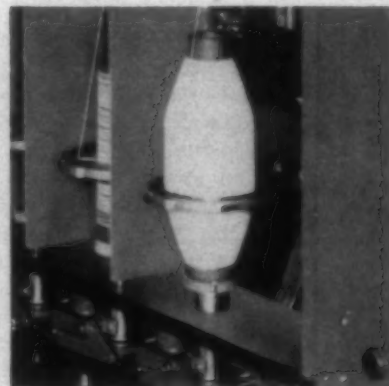
Copies of the book are available at \$17.50 each from Interscience Publishers Inc., 250 Fifth Ave., New York 1, N. Y.

white NON-FLUID OIL

TRADE MARK REGISTERED



Ordinary Oils or Greases
Spatter onto Bobbins



White NON-FLUID OIL
Stays on Rings

If your output per frame is not up to expectations, chances are you are using the wrong lubricant.

White NON-FLUID OIL is the preferred lubricant in the textile industry because it does not cause black yarn or spread out on rails to spatter bobbins. It adheres to wearing surfaces and stays on rings, lubricating effectively to keep travelers running almost friction-free. This reduces the pull at high speeds, resulting in fewer broken ends and a yarn of more uniform quality. White NON-FLUID OIL is more economical than ordinary oils and greases . . . you need less lubricant and have fewer applications.

Send today for a free testing sample of white NON-FLUID OIL and Bulletin T-16. You will see the difference.

NEW YORK & NEW JERSEY LUBRICANT CO.

292 MADISON AVE., NEW YORK 17, N. Y.

WORKS: NEWARK, N. J.

Sou. Dist. Mgr.: Fred W. Phillips, Greenville, S. C.

WAREHOUSES:

Atlanta, Ga. Birmingham, Ala. Charlotte, N. C. Chicago, Ill.
Columbus, Ga. Detroit, Mich. Greensboro, N. C. Greenville, S. C.
Providence, R. I. St. Louis, Mo.



NON-FLUID OIL is not a name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

Serving The Textile Industry

Greensboro Loom Reed Obtains Reed Wire Patent

A patent has been issued to George A. McFetters, assignor to the Greensboro (N. C.) Loom Reed Co., for a new matte or satin finish for reed wires to reduce friction and static electricity when weaving most types of yarn and particularly synthetics.

The new finish is described as an irregular, semi-dull one that is smooth to the touch. It is obtained by blasting the reed wires with an abrasive material carried by either air or water. This material is designed to give a pitted surface that will reduce friction and static electricity.

The patent states that the reed wires can also be plated with chrome after the matte finish has been applied to prevent corrosion and prevent wear of the reed wires. However, the outside of the chrome coating must conform with the matte finish on the reed wires.

Tests on the Profilometer, an apparatus manufactured by the Micrometrical Mfg. Co., Ann Arbor, Mich., show the root-mean-square (R.M.S.) results to be between 0 and 20 R.M.S. for the polished or shiny chrome surface range. Plain matte finishes range from 20 to 200 R.M.S. The preferred range for macroscopically (seen with the naked eye) rough and non-specular matte surfaces will lie between 70 and 200 R.M.S. depending on the denier or other properties of the yarn to be woven.

Draper Makes Changes In New Filling Doffer

Designs for unspecified changes are on the drawing boards for the spinning frame doffer to be built by the Draper Corp., Hopedale, Mass. The rights for the device were recently acquired by Draper from Willcox & Gibbs Sewing Machine Co.

Several machines are to be built from these new drawings and then they will be ready for limited production orders. As yet the company has not been able to set a definite date for actual production of the machine, according to the company.

The first Draper units are to be for filling spinning frames only, but work

is being done to adapt the machine to warp spinning. The engineering work is to be carried out at Draper's Hopedale plant and doffer production will be done at the company's subsidiary unit, the Wildman Jacquard Co. of Norristown, Pa.

Several changes have been made on the unit since it was shown at the Southern Textile Exposition, held at Greenville, S. C., last year. Generally, the machine has been made more compact, with a magazine feed replacing the drum-like container. Rearrangement and elimination of some interior bridge structures enable it to handle fine as well as coarse counts of yarn, reports Draper. The machine is designed to doff 6,000 to 8,000 bobbins an hour.

Batson Mfg. Co. Sold To Harry M. Thompson

Controlling interest of the Batson Mfg. Co., Greenville, S. C., has been purchased by Harry M. Thompson, former assistant treasurer and manager of the real estate department of the Liberty Life Insurance Co., Greenville, S. C.

The firm will continue to operate as Batson Mfg. Co. and the products that are manufactured for the textile industry will continue to be sold through Louis P. Batson Co. The company manufactures picker sticks, loom signaling devices, loom lays, hand rails, revolving and flat clearers and has complete facilities for both turning operations as well as flat work.

Batson is in the process of expanding production facilities by 25% and has within the last two months completed a new dry kiln and boiler.

Burkart-Schier Named Agent For Alginates

The Burkart-Schier Chemical Co., Chattanooga, Tenn., has obtained the rights for the sale and distribution of a complete line of alginate products for use in the textile industry from the Edward Mendell Co., Yonkers, N. Y. The company reports a growing interest in the use of alginates in the application of both dyestuffs and resin finishes and will supply them with its complete

range of industrial and textile chemicals and auxiliaries as well as its latex compounds.

Edward Mendell Co. is the exclusive representative in the U. S. for Societe Nourylande of France, which has been producing alignate materials since 1931. During this time it has developed many different types and grades of alignates for textile printing, dyeing, sizing and finishing.

Royce Chemical Co. Acquires Sintos Co.

Royce Chemical Co., Carlton Hill, N. J., has acquired the processes and manufacturing facilities of the Sintos Co. Inc., which developed Corobex and pioneered in obtaining a broad range of applications for it in products such as clothing and sheeting. Corobex is a bacteriostat and fungistat.

Corobex will be marketed by the Royce Chemical sales and distribution organizations under the direction of former Sintos management. It is at present available as a powder and liquid, and market development plans include the preparation of special formulations to meet the needs of the textile industry.

Whitin To Produce, Market Deering Milliken Doffer

Whitin Machine Works, Whitinsville, Mass., announced at its recent annual stockholders meeting that it has obtained a license to manufacture and market the Deering-Milliken automatic doffer. The company also announced earnings of \$4.1 million on sales of \$71.6 million in 1960. Sales were up some 44% over the same period in 1959.

The decision to market the doffer was made, according to J. Hugh Bolton, president of Whitin, after intensive investigation both of various automatic doffing machines and the short and long range needs of the textile industry for automatic doffing of spinning and twisting frames. Bolton said that the Deering Milliken technique provides a complete bobbin handling system including doffing and would be the most universally suitable to the complex requirements of the industry. He also said that



"It replaced many people, but it still needs Dillard paper!"

Dillard PAPER COMPANY

GREENSBORO • CHARLOTTE • RALEIGH • WILMINGTON • WINSTON-SALEM • ATLANTA • MACON • AUGUSTA
GREENVILLE • COLUMBIA • SPARTANBURG • ROANOKE • BRISTOL • RICHMOND • KNOXVILLE • BIRMINGHAM

1926

"IF IT'S PAPER"

1961

SERVING THE TEXTILE INDUSTRY—

the industry would require such automatic doffing as the next logical step toward its goal of providing better goods at lower cost.

The doffer has already been through mill testing and several orders have been placed with Whiting from Deering Milliken mills.

Roberts Announces Sliver Spin Unit, Roving Frame

A new sliver spin system, as well as an advanced high speed roving frame, will be introduced by Roberts Co., Sanford, N. C., this year. According to the company, recent design improvements and technological developments have enabled Roberts to produce a sliver spin system specifically tailored to the proficiency of American mill practices. Also the roving frame permits 50% more production than conventional roving frames.

Robert E. Pomeranz, president, said that though there is more interest in the sliver to yarn systems than ever before, "There is ample room for both, depending upon a mill's need. Each mill

must evaluate its own responsibilities and ambitions. Yarn numbers, the kind of cotton stock or fiber used, the plant and floor space availability—these factors must all be considered. In some quarters it is felt that it may take a whole new building and special air handling to make sliver spinning successful in certain applications."

The sliver to yarn system will be supplied from 5 lb. cans located in the creel of a 39" wide Arrow spinning frame. Drafts of 100 to 300 will be possible in the 2-zone, double apron drafting system. Spindle speeds up to 15,000 r.p.m. are projected.

The new high-speed roving frame for both the cotton and worsted systems will produce a 14x7" package weighing up to 6 lbs. and will run at speeds up to 1200 r.p.m. Cones are eliminated and a high-speed flyer for the roving machine is under mill evaluation at present, said the company.

"It is our opinion that our new high-speed roving frame in conjunction with our latest Arrow spinning frames, outperforms in all respects foreign direct spinning equipment. This includes yarn quality, speeds and productivity, costs and, highly important, versatility for all yarn types and counts, coarse and fine," declared Pomeranz.

Acme Reports Higher 1960 Sales And Lower Earnings

Acme Steel Co., Chicago, Ill., has reported an increase of 5% in net sales in 1960 of \$140.5 million compared to \$133.8 million in 1959. The net income in 1960 declined to \$2.2 million from \$3.7 million in 1959 due to the steady decline in the demand for steel products in the last three quarters of 1960, coupled with the full impact of starting-up costs of the new steel plant and the installation of a new hot mill.

In each of the last several years, Acme Steel has had to absorb non-recurring expenses under adverse business conditions without having the opportunity to realize a return from the capital invested.

Fisher Mfg. Co. Merges With National Vulcanized

National Vulcanized Fibre Co., Wilmington, Del., has completed its merger with Fisher Mfg. Co., Hartwell, Ga., and will move its Lestershire textile bobbin facilities from Johnson City, N. Y., to Hartwell.

Fisher is a supplier of metal, vulcanized fiber, fiber glass and fiber-armor-

ed materials handling receptacles for the Southern textile industry. Terms for the purchase called for an exchange of 17,000 shares of National Vulcanized stock for 1,000 shares of Fisher stock, issued and outstanding.

Fisher's line of materials handling receptacles and specialties will now be offered by National's sales force. The Fisher sales organization is unchanged, except that it now offers Kennett receptacles as well as the Fisher line.

Plans call for the integration of the Fisher and Lestershire manufacturing operations. The change is scheduled for mid-May and no interruption in production is anticipated. Key engineering and manufacturing personnel are being transferred to Hartwell. There is to be no change in sales and distribution and the name Lestershire will be retained.

Moretex Chemical Products Purchased By Irwin, Hurd

Purchase of Moretex Chemical Products Inc., Spartanburg, S. C., from the Moreland Chemical Co. by Wallace R. Irwin, Ira S. Hurd and an associated group has been announced.

Moretex Chemical Products was organized in 1908, and has operated under the present name since 1955. Moretex textile chemical products include Moropol polyethylene emulsions, Morepel water repellents, Moropon detergents, and Moretex sizing compounds. Moretex is exclusive textile licensee for W. R. Grace Chemical Co.'s cationic hydrazine softeners, marketed under the trade name of Aquazine. The firm also markets polyvinyl acetate and polyvinyl alcohols through agreements with Air Reduction Chemical & Carbide Co. and Aktavins under agreement with the Heyden-Newport Chemical Co.

Ultrasonic Cleaning Unit Demonstrated In Charlotte

To personally acquaint themselves to potential customers in the Southeast and to demonstrate the company's new concepts in ultrasonic cleaning, members of Powertron Ultrasonics Corp., Garden City, N. Y., held an open house in the Hotel Charlotte, Charlotte, N. C., April 12.

The machine used in the demonstrations was the Autosonic Series 700, incorporating a 28 kc generator, model PA-7001, and a transducerized tank, model PT-7002 with an eight-gallon capacity.

The generator is designed to operate



ONE OF NEW YORK'S FINER HOTELS

On the city's most famous thoroughfare, 5th Avenue in exclusive Washington Square. Spacious single rooms from \$10 daily. With air-conditioning from \$12-\$14. Lavish 2 & 3 room apartments with serving pantries. Television available.

SPECIAL RATES
on a monthly basis. Additional substantial savings, on unfurnished and furnished apartments on lease.



Write for descriptive brochure
N. Scheinman, Managing Director

Fifth Avenue Hotel

24 FIFTH AVENUE at 9th STREET

*for smooth, quiet, dependable,
right-angle power
transmission, specify...*

HIGHER HP CLEVELAND SPEED REDUCERS



During a lifetime of trouble-free service, these versatile space-saving Cleveland's will transmit power uniformly, smoothly, dependably—under even the most severe operating conditions. Clevelands actually improve through use. Thousands of units have outlasted their driven machines.

During the last half century, Cleveland has designed and produced a complete line of standardized and special worm gear speed reducers as well as industrial worm gearing for built-in drives to handle almost every type of power transmission application.

Now, Cleveland's use of fan cooling, centrifugally cast bronze gears and special heat treatment of alloy steel worms permit substantially higher input HP and output torque ratings—with smaller units.

Cleveland's wide knowledge of worm gear capabilities enables their field representatives to offer valuable engineering assistance in solving power transmission problems. These experienced engineers will gladly provide you the advantage of "on location" advice and counsel.

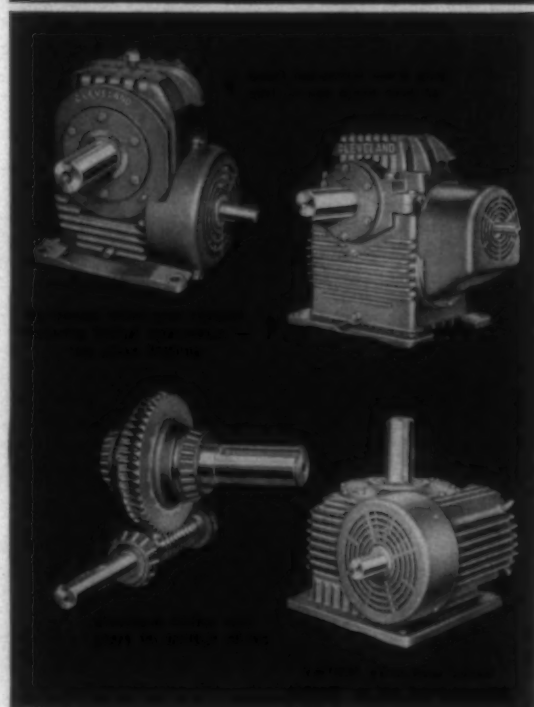
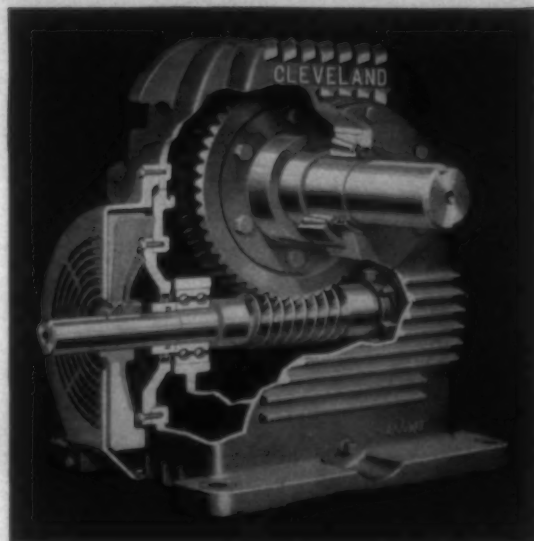
Write today for your personal copies of the up-to-date illustrated Bulletins shown at right. They describe the finest, newly-designed line of higher-horsepower worm and gear speed reducers—available *anywhere* in the world.

Cleveland Worm & Gear Division
Eaton Manufacturing Company
3274 East 80th Street • Cleveland 4, Ohio



CLEVELAND

Speed Reducers



SERVING THE TEXTILE INDUSTRY—

two Autosonic Series 300 tanks or immersible transducers. It also permits the alternate use of two series 700 tanks.

Electrical energy is supplied to the generator from an ordinary wall plug-in. This energy is transformed into a powerful 28 kc, which is fed to the transducer. The transducer converts the electrical impulses into sound waves. The sound waves are then fed through the solvent or cleaning fluid causing millions of minute bubbles to form and collapse. This formation and implosion of the bubbles creates a force of 30 to 50,000 pounds per square inch. Dirt, grease or grime are forced from the surface of the objects being cleaned by this pressure.

The unit has the capacity to clean the most intricate parts of a mechanism without disassembling in a matter of seconds. Heretofore, it has taken minutes and sometimes hours, depending upon the job. The company reports that cleaning times have been reduced in some cases as much as 300%. This naturally reduces costs.

To obtain best cleaning, fill the tank with three quarters cleaning fluid and one quarter objects to be cleaned. Don't fill the tank with more than the allotted objects to be cleaned or the efficiency will be impaired, Powertron pointed out.

Also included in the unit is a feedback system from the transducerized tank to the generator to adjust for different loads in the cleaning process. This allows the unit to have only one control—an on-off switch. Prior to this development, a company using this type cleaning had to employ an experienced person to watch the machine and make adjustments on the generator for the different loads placed on the unit.

With the single switch, the generator

unit can be separated from the tank without someone to make changes in the rate of cavitation.

Prices of the units range from a low of \$395 to \$2,790 and up, depending upon the size of the machine and its capabilities.

Maremont Has Acquired 91% Of Saco-Lowell Stock

Maremont Automotive Products Inc., Chicago, announced recently that it owned 91.08% of the common stock of Saco-Lowell Shops, or 512,464 of the 562,650 shares outstanding.

This represents the number of shares acquired by Maremont through open market purchases during the past 18 months in addition to an offer to Saco-Lowell Shops stockholders of one share of Maremont common plus \$10 in par amount of Maremont 6% preferred series of 1960 for each share of Saco-Lowell common.

Cotton Council Opens Los Angeles Office

A Western office of the National Cotton Council, Memphis, Tenn., has been opened in Los Angeles, Calif.

The new Western promotion service office will be headed by Miss Helen von Lessen who has been serving as council sales training manager in New York.

The principal reason for establishing the new office is the rapid growth in importance of the West as an apparel manufacturing center, according to Ernest Stewart, council sales promotion manager.

"The industry centered in the Los Angeles and San Francisco areas is the nation's second largest in the production of apparel for misses, women and juniors," he said. "California manufacturers are major producers of sports-

wear, suits and work clothing for men and boys."

Also cited were the spectacular population growth of the Western part of the country and the consequent added importance of the region as a retail market for all types of soft goods.

Responsibilities of the Western office will include extension of existing council activities such as retail sales training and store promotions of cotton apparel and home furnishings. The office also will provide the council with coverage of the fashion market and liaison with trade and consumer communications media.

Warner & Swasey Expects 1961 Shipments To Drop

Predictions that 1961 shipments of textile equipment will be off some 15% from 1960 for Warner & Swasey Co., Cleveland, Ohio, have been made by Walter K. Bailey, president.

He said that both over-all sales and net earnings for the company for the first quarter of 1961 were far behind figures for the same quarter last year.

It was reported by the company that the decrease in sales for textile equipment was largely on the domestic market as sales on foreign markets were equal to those of last year.

Of the company's 383 textile machinery units shipped last year, some 70 of them were on the firm's leasing program. During the year some 242 pin-drafters, 52 converters, 33 twist-winders and 56 wire weaving machines were shipped.

Dayco Tire Division Sold To Firestone

The board of directors of Dayco (Ohio) Corp. has approved the sale of the tire division to Firestone Tire & Rubber Co., Akron, Ohio.

A. L. Freedlander, chairman of the board and chief executive officer of Dayco Corp. pointed out that the sale is solely of the tire division and does not affect the other ten manufacturing plants, other subsidiaries and divisions or foreign technical agreements.

The proceeds of this sale will be applied against existing indebtedness so that Dayco's annual interest charges will be reduced by approximately \$1 million per year. This will enable the company to replace the tire division's volume with more profitable sales, according to Dayco.

Freedlander further stated that this

Carolina
LOOM REED CO., INC.

A Carolina Reed

Manufacturers of consistently better products

ALL METAL CARBON AND STAINLESS STEEL REEDS

PITCH BAND AND METAL COMBS

DROP WIRE AND HEDDLE BARS

P. O. Box 1536

GREENSBORO, N. C.

Phone BR 4-7631

sale in no way affects Dayco's holdings in Copolymer Rubber & Chemical Corp. of Baton Rouge, La., a large synthetic rubber manufacturer.

The tire division represented about 30% of Dayco's total sales volume. The remaining divisions and subsidiaries, which account for 70% of Dayco's sales, have been over the years more profitable than the tire division, Freedlander stated.

Eastman Kodak Reports Increased Earnings, Sales

The Eastman Kodak Co., Rochester, N. Y., has announced increased sales and earnings for 1960. Net earnings totalled \$127.1 million against \$124.7 million for 1959 and sales totalled \$944.8 million for 1960 compared with \$914.1 million in the previous year. Man-made fibers and plastics accounted for some 18% of Eastman's total sales last year.

The Tennessee Eastman division of the company has moved a new polypropylene fiber into the pilot plant stage. According to Eastman, semi-commercial quantities of this fiber will soon be available for trade trial. The company has also devised methods for use by customers to extrude thin sheets from Tenite polypropylene plastic.

The company reports that there is currently a pause in the advance of the nation's economy. Business in general has shown some decline. Eastman feels that with several new manufacturing plants having begun operations recently, a variety of new products to be introduced, intensified selling efforts and careful control of costs and expenses, it is in a good position for the coming year.

Sale-Leaseback Plan Introduced By Nationwide

A new plan by which textile companies can sell their existing plant and equipment and immediately lease it back for terms of from three to 12 years has been announced by Nationwide Leasing Co., Chicago.

Robert Sheridan, president, said the Nationwide sale-leaseback plan was designed specifically for firms which have an over-large investment in fixed assets and whose growth, as a result, was being hampered by tight working capital.

Special feature of the plan is that for selected textile firms it will be possible to sell, for cash, fully or partially depreciated equipment to Nationwide at greater-than-book-value and lease it back, Sheridan stressed. This is the first

such plan ever developed for the textile industry, he added. Also a first, Sheridan pointed out, is the inclusion of custom-built equipment and the availability of terms as long as 12 years.

Every type of production and office equipment is included in the leaseback plan. Other features of the plan include the purchasing of equipment for cash at book value and for selected firms at even higher prices; the immediate leasing back of the equipment to the companies for a period of three to 12

years, depending upon the amount and type of equipment; and no security deposit is necessary.

The plan features level quarterly payments, unless other schedules are requested; and custom-built equipment.

The minimum amount that will be considered under the plan is \$25,000. There is no maximum.

To qualify, a company must meet the following requirements: (1) Net worth of the company must be at least three times as much as the sum involved, with

THE FINEST MILLS



The above photograph of one of the cloth rooms of Stonecutter Mills corporation, Spindale, N. C. illustrates the efficient use of modern equipment by this famous company.

USE STAR-GRIP[®] TUBES

And here, as with many other leaders in the industry, non-slip STAR-GRIP[®] Tubes "earn their keep", winding even the finest fabrics. You, too, can rely on Star Paper Tube to provide all of these:

1. Specialized research to solve your problems.
2. Highest uniform quality for your money.
3. Complete line of textile tubes.
4. Three fully equipped and conveniently located plants.
5. Prompt service from large paper stocks at each plant.

For QUALITY and ECONOMY, let Star Tubes "deliver the goods" for you.

®Trade name patented



Rock Hill, S. C., Ph. 327-2026
Danville, Va., SW 3-6379
Austell, Ga., Phone 948-5338

SERVING THE TEXTILE INDUSTRY—

a minimum of \$100,000. (2) The company must have a history of profitable operations. (3) An appraisal of the current value of the equipment involved must be submitted. (4) The company must show evidence of a competent management group.

United Dye Works Opens New Dye, Finishing Plant

The United Piece Dye Works, New York City, has announced the opening of a modern new plant in Bluefield, Va., for dyeing and finishing fabrics composed of all the various man-made fibers now on the market—singly, and in blends with one another or with natural fibers.

The 147,000-square-foot, single-story structure has been equipped with the newest and most modern equipment for handling diversified types of fabrics in the present wide range of fiber blends, according to United.

To keep pace with fiber and fabric innovations in the textile field a research and development laboratory is being established in the Bluefield plant to be

technically equipped to work on special textile applications and fabrics of the future.

Overnight deliveries will be made by truck from Bluefield to the New York market.

Curlator Corp. Purchases Carolina Machinery Co.

Carolina Machinery Co. Inc., Charlotte, N. C., manufacturers of fiber processing machinery for the textile industry, has been acquired by Curlator Corp., East Rochester, N. Y.

Carolina Machinery makes a variety of textile machines, including SRRL opener-cleaners, CMC waste machines, blending feeders, conveyors, condensers and other related special and contract machine design and manufacture. It will be operated as a wholly owned subsidiary of Curlator Corp.

No changes are expected in Carolina's management or other employees as a result of the acquisition other than John W. Ingle, who will become president and treasurer. John McLaughlin will continue in active management as vice-president and secretary and Charles Auten as vice-president.

General Aniline Reports Record Sales In 1960

General Aniline & Film Corp., New York City, reports a new record high in sales for 1960. Sales for the year totaled \$159.8 million as compared with \$159 million in the previous year. Net income rose about 2% to \$7.2 million from the \$7 million recorded in 1959. Some \$6.8 million was spent by the company during the year on research and development.

Clinton Corn Releases Corn Syrup Research Paper

The Clinton (Iowa) Corn Processing Co. has released the findings of Dr. Lee D. Ough, presented at the St. Louis meeting of the Division of Carbohydrate Chemistry, American Chemical Society, March 24.

Dr. Ough's paper was concerned with the further probing into the composition of corn syrups. He said that new analytical procedures probe deeper into the composition of corn syrups and show that all component classifications are enlarged.

Through the use of paper chromatography, at least eight of these have

been found in one corn starch, he said. The syrup components are separated on filter paper after first placing a very small amount of the syrup on the paper. After the paper has been irrigated with a solvent, the syrup components are located. Their positions identify them. After removal from the paper, their quantities are determined by analytical methods.

Reeves Forms New Polypropylene Division

Reeves Bros. Inc., New York City, has announced the formation of its new fiber division for the production and sale of staple, tow and multifilament polypropylene. The new division is also responsible for marketing polyethylene and monofilaments.

Major outlets for these fibers and filaments are seen both in industrial and consumer fields, according to John Karrh, manager of the new division. Among the end products suitable for polyolefins are carpets, blankets, linings, sweaters, jersey knits, coats, jackets, suitings, lingerie, gloves, socks, filter fabrics and laminates. Polypropylene monofilaments are already being widely used for outdoor furniture webbing.

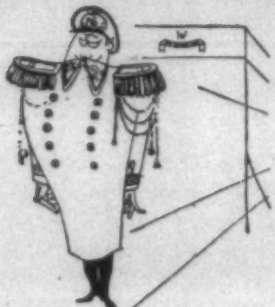
Staple and tow polypropylene is presently available in 3, 5 and 15-denier, in both dyeable and non-dyeable fiber. Multifilaments are available in 210/70 denier and up, in experimental quantities.

Batson Named Sales Agent For Quaker State Lubricant

The Louis P. Batson Co., Greenville, S. C., is now handling sales of Quaker State Multi-Purpose lubricant for the textile industry. Manufactured by the Quaker State Oil Refining Corp., Oil City, Pa., it is reported to be one of the finest quality greases of its kind.

This type lubricating grease is designed not to melt or drip at temperatures over 500° F. and will not wash out or emulsify in the presence of water or steam. Other properties include non-corrosiveness to all types of metals and alloys and an absence of any of the usual soap-base thickening agents.

Some favorable advantages reported by the company are adhesiveness to metal surfaces, heat stability and moisture resistance. The company recommends it for the lubrication of anti-friction bearings, plain bearings and most other types of mechanical parts which require grease lubrication.



**INTRODUCING THE NEW
DRYDEN-EAST
HOTEL**

39th St., East of Lexington Ave.
NEW YORK

Salon-size rooms • Terraces • New appointments, newly decorated • New 21" color TV • FM radio • New controlled air conditioning • New extension phones in bathroom • New private cocktail bar • Choice East Side, midtown area • A new concept of service. Prompt, pleasant, unobtrusive.

Single \$15 to \$22 Suites to \$30
Special rates by the month or lease

Robert Sarason, General Manager
ORegion 9-3900
Teletype: NY 1-4295

"down time" goes down...stays down

with CARTER  travelers

When you specify CARTER TRAVELERS you insure smooth, trouble-free spinning and twisting regardless of yarn count or spindle speeds.

Why? Because precision engineering—skilled craftsmen working with modern machinery—plus scientific laboratory quality

control give you a product that cuts worry-time to a minimum . . . increases smooth running time.

Sold and serviced by a team of *specialists*, CARTER TRAVELERS help you make and sell a better product at a better profit.

REPRESENTATIVES

R. A. Haynes, Special Representative
114 W. Fifth Ave., Gastonia, N. C.
B. R. Link . . . 2227 Glenraven Ave., Gastonia, N. C.
W. T. Horton . . . Belmont, N. C.
D. E. Phillips . . . P. O. Box 441, Clarksville, Ga.
P. L. Percy . . . Rt. 3, Chesnee, S. C.
J. R. Richie . . . 1307 Crabapple Lane, Raleigh, N. C.
J. K. Davis . . . P. O. Box 129, Auburn, Ala.
Larry Bellerose . . . North Grosvenordale, Conn.
L. O. Talley . . . P. O. Box 1169, Mexia, Texas
Hugh Williams & Co.,
27 Wellington St., E., Toronto, Ontario, Canada

 **Carter**
TRAVELER COMPANY

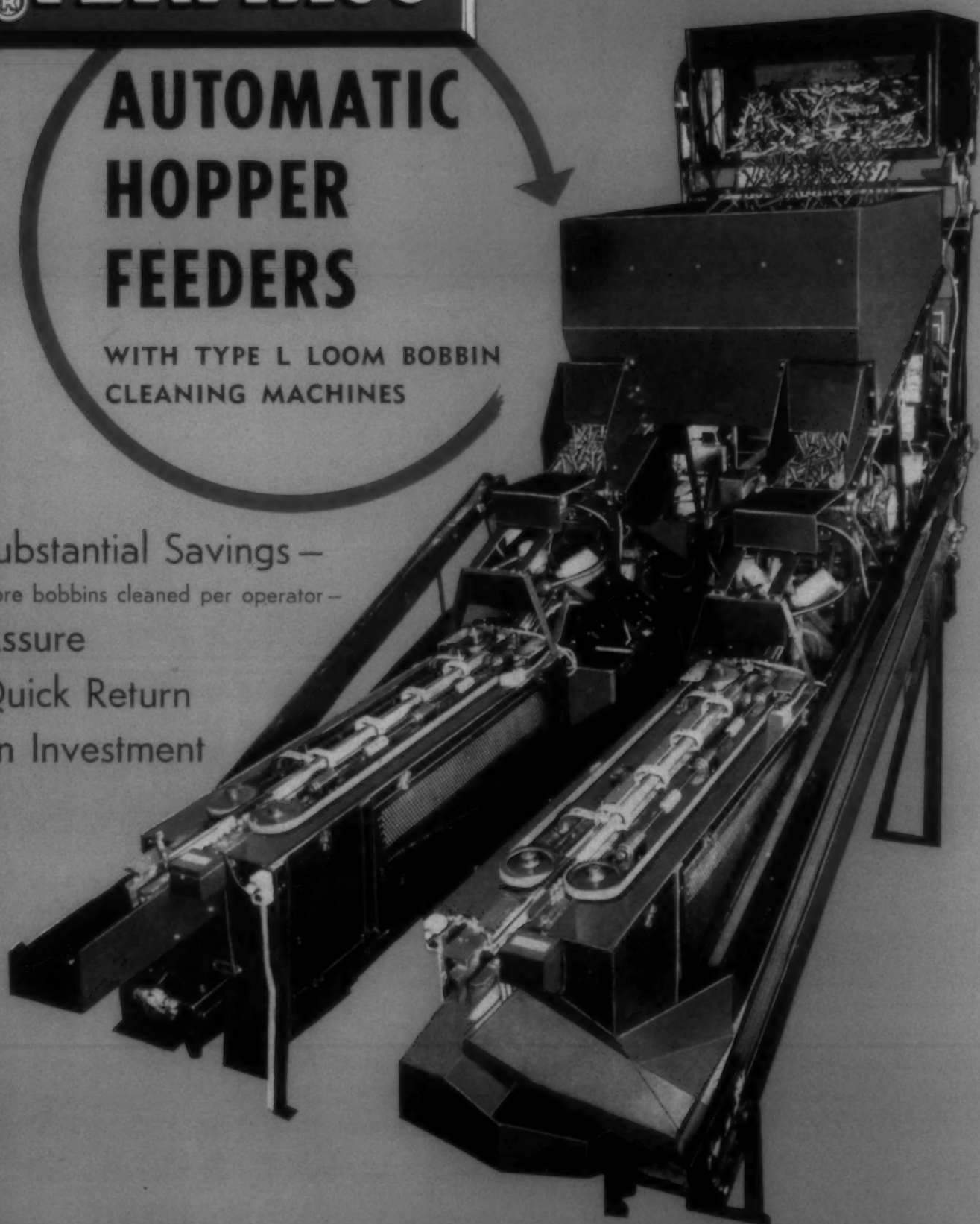
DIVISION OF A.B. CARTER, INC. MANUFACTURERS OF THE
BOYCE WEAVERS KNOTTER GASTONIA, NORTH CAROLINA

TERMACO

AUTOMATIC HOPPER FEEDERS

WITH TYPE L LOOM BOBBIN
CLEANING MACHINES

Substantial Savings —
more bobbins cleaned per operator —
Assure
Quick Return
on Investment



THE TERRELL MACHINE COMPANY, INC.

P. O. BOX 928, CHARLOTTE, NORTH CAROLINA

Is There Such A Thing As Pessimistic Hope?

THE TERM MAY BEST DESCRIBE A.C.M.I.'S MOOD
AT ITS RECENT ANNUAL MEETING IN MIAMI BEACH

DESPITE their many frustrations, textile manufacturers attending the recent annual meeting of the American Cotton Manufacturers Institute at Miami Beach, Fla., are looking ahead with cautious optimism. They generally are basing their hopes on:

- (1) a statistical indication that an upturn in the textile economy is in sight;
- (2) a belief that the Kennedy Administration realizes the gravity of the textile imports problem and is seeking earnestly an equitable solution; and
- (3) a stern but optimistic challenge laid down by A.C.M.I. President J. M. Cheatham.

The close to 900 persons in attendance were heartened by a report from the institute's economic information division that a change in the January-February ratio of unfilled orders to inventories indicated a pick-up in the industry's economic outlook. It was pointed out, however, that the change could be only temporary. In recent months textile output has dropped

more sharply and further than the nation's all-industry average and more rapidly than in the 1956-1958 downturn. This decline, the report noted, pointed up the severity of the rise in imports over the past 18 months. In December, however, there was a rise of 13% in unfilled orders and a shrinkage in inventories.

Secretary of Commerce Luther H. Hodges told the meeting that "you will get a decision . . . you will get action" from the Kennedy Administration on the imports problem.

"A national administration cannot settle the textile problem in a vacuum or without regard to other matters," Hodges said. "The solution, or the easing of the problem, is not simple, is not easy, and it presents many collateral problems, as you can well imagine."

Senator John O. Pastore, scornfully disclaiming the label of "protectionist," called upon the Administration to "make textiles part of the new frontier."

"Our committee feels that our recommendation of flexible, expandible quotas is a fair and reasonable compromise to a



Ruffin, Cheatham, Stevens, Hall

J. M. Cheatham, outgoing president of A.C.M.I., chats with newly elected officers at the twelfth annual meeting. The new slate, which assumes office October 1, consists of R. Dave Hall, president; William H. Ruffin, first vice-president; and Robert T. Stevens, second vice-president. The foursome represents 150 years experience in the textile industry (Hall began his textile career in 1919; Ruffin and Stevens in '21; Cheatham in '33).

R. Dave Hall

THE A.C.M.I.'s new president-elect, Dave Hall of Belmont, N. C., began his textile career in a vacation-time job as a doffer at the age of 14. This led to his appointment as bookkeeper and shipping clerk for two mills in Belmont following his graduation from Davidson College in 1919. Today he is chairman of the board of Climax Spinning Co.; secretary-treasurer of Majestic Mfg. Co.; secretary-treasurer of Sterling Spinning Co.; secretary-treasurer of Stowe Thread Co.; president of Belmont Hosiery Mills; and president of Belmont Knitting Co.



Hall

In addition, he is a director and member of the executive committees of American & Efrid Mills, Mount Holly, N. C., and of the Bank of Belmont. He also holds directorships in Belmont Converting Co., R. S.

Dickson & Co. and the Security Fire and Indemnity Co.

He is the only member of the original Employment Security Commission of North Carolina, having been first appointed to the commission in 1941 by the late Governor J. Melville Broughton.

He has served two three-year terms as a director of A.C.M.I., he is a past president of the North Carolina Textile Manufacturers Association, and he has served two terms as president of the Combed Yarn Spinners Association. He is a member of the advisory council of the North Carolina Vocational Textile School, a member of the board of St. Andrews Presbyterian College and a member of the advisory committee of Belmont Abbey College.

A veteran of World War I service as an infantry lieutenant, Hall is a past North Carolina state commander of the American Legion. He is a Presbyterian, Rotarian, Mason and member of Phi Gamma Delta social fraternity. He is married to the former Mary Howe of Belmont and they have one son, Robert Davidson Hall Jr.

very knotty problem. We feel that the law can be administered effectively. We feel that this law will have a salutary effect not upon our own American textile economy, but, indeed, will have a salutary effect upon our friends, who are exporting to us from abroad.

"The worst thing that can ever happen to America is to lull the rest of the world into the notion that they can produce and produce and produce their textiles and sell them to the American consumer, and then one day, when the goose that has laid the golden egg dies, to wake up and find out they must close their own mills. We will wind up with more

enemies in the end than we had friends in the beginning."

He assured the audience that "there is enough power in existing law, there is enough power in the presidency of the U. S., to ameliorate the situation in the textile industry in the U. S. and to do so quickly. No further legislation, in my humble opinion, is required."

Referring to the many compliments and expressions of appreciation received by his Textile Subcommittee, Senator Pastore admonished, "I am not interested in the plight of the textile industry because an individual may be looking to his profit or his losses. I am only interested in the textile industry

William H. Ruffin

WILLIAM H. Ruffin, A.C.M.I.'s newly elected first vice-president, was born February 8, 1899, in Louisburg, N. C. He attended Porter Military Academy, Charleston, S. C., and was graduated from the University of North Carolina in 1921 with a degree in business administration.



Ruffin

He went to work for Erwin Mills after leaving the University and for several years was in manufacturing. Later he served as secretary and treasurer of the firm and from 1942 until 1948 he was vice-president and treasurer. He became president in 1948.

He is a director of Wachovia Bank & Trust Co. of Winston-Salem, and also its Durham Branch bank; Durham and Southern Railway; General Telephone Co. of the Southeast; and Woodward, Baldwin & Co., New York, N. Y.

He is a past president of the North Carolina Textile

Manufacturers Association and of the North Carolina Industrial Council. He previously served a term as second vice-president and part of a term as first vice-president of the American Cotton Manufacturers Institute, but was released from the approaching presidency to become president of the National Association of Manufacturers in 1951. He was chairman of the board of N.A.M. in 1952 and was chairman of the executive committee of that organization in 1953.

He received a Freedom Foundation Award for one of the best speeches of the year in 1951, and in 1952 received the Doctor of Textile Science honorary degree from N. C. State College.

He is past president of the Alumni Association of the University of North Carolina and the Layman's Association of the Episcopal Diocese of North Carolina, and has served a number of terms as senior warden of St. Philip's Episcopal Church, Durham. Membership in societies and fraternities includes Society of the Cincinnati, Kappa Sigma, Omicron Delta Kappa, Alpha Kappa Psi, Beta Gamma Sigma, and Phi Psi.

He is married to the former Josephine Craig Klutts. They have three children and make their home at 25 Oak Drive, Forest Hills, Durham. His hobbies are golf and hunting.

because I think it is absolutely necessary to the economic stability of America."

After giving Senator Pastore a standing ovation for his remarks, the meeting unanimously endorsed a resolution approving all of the recommendations of a Senate Subcommittee named to investigate textile problems which he heads and also commending President Kennedy's "unusual actions" in appointing a Cabinet-level committee to consider the textile imports problems.

In a less enthusiastically received address, Secretary of Commerce Hodges noted that textile mill production, profits and employment have been lagging behind the general economy not only because of the sharp rise in imports but also because of such factors as increased competition from other materials such as plastics and paper, and a shift in consumer expenditure patterns.

The Secretary mentioned the action taken by Japan in 1957 to regulate cotton textile exports to the U. S., saying it had "the defect of its virtues—that is, it has covered only one source of imports . . ." He noted that since 1958 exports of cotton manufactures from Hong Kong to the U. S. increased 352%, from Spain, Egypt, France and Portugal 4,500%, and from Formosa, Korea, Pakistan and India 1,300%. He admitted that these new shippers complicated the voluntary quota situation which, he added, might be expanded through international agreements.

J. M. Cheatham, in his President's Annual Address at the opening session of the meeting, laid down his own challenges to the industry for the months and years ahead. His "Seven Stars To Steer By" included:

- (1) recognition of public interest;
- (2) market research and development;
- (3) creative research in fibers, manufacturing processes and products;
- (4) increased profitability;
- (5) better government relations;
- (6) the orderly expansion of world trade; and
- (7) public understanding and esteem for the textile industry.

Lashing out at the nation's foreign trade policies, Cheatham said that "Policies devised in the Depression '30s to prime the pump of world commerce, and revived after World War II to aid the recovery of war-torn countries, are now being manipulated in such a way that while overseas markets are denied to us, the domestic market which we developed is being subjected to wholesale invasion. The flood of textiles reaching our shores in ever greater volume, uncontrolled, continues to take its increasing toll in sales lost, business lost and jobs lost."

He also touched on some of the industry's perennial problems. For example, he suggested that the industry, at times, seems to be too preoccupied or blinded by price competition in the greige goods markets. He urged greater study of other factors that affect textile consumption—social trends, economic developments, the influence of fashion changes, consumer's whims and the psychology that enters a consumer's thinking before buying.

He also advocated a new evaluation of existing and projected promotion possibilities, new approaches to old techniques and better knowledge of competitive forces inside and outside the industry. He also dwelt at length on the need for better public understanding of the industry, its purposes, its problems and its products.

Concentrating on this theme, John F. Campbell, A.C.M.I.'s public relations director, emphasized that an enlightened public

Robert T. Stevens



Stevens

THE newest member of A.C.M.I.'s official family is Robert T. Stevens, named in Miami Beach to the institute's second vice-presidency. Born in Fanwood, N. J., he began his textile career in 1921 when he joined the family firm of J. P. Stevens & Co. Following eight years in both manufacturing and merchandising, he was elected president in 1929, upon the death of his father, John P. Stevens Sr.

He served as president from 1929 to January 1942 when he joined the Army. Upon his return from service in 1945 he was elected chairman of the board, an office which he held through 1952, when he was designated Secretary of the Army by President-elect Eisenhower. He returned to the textile industry in September 1955, and was elected president of the company.

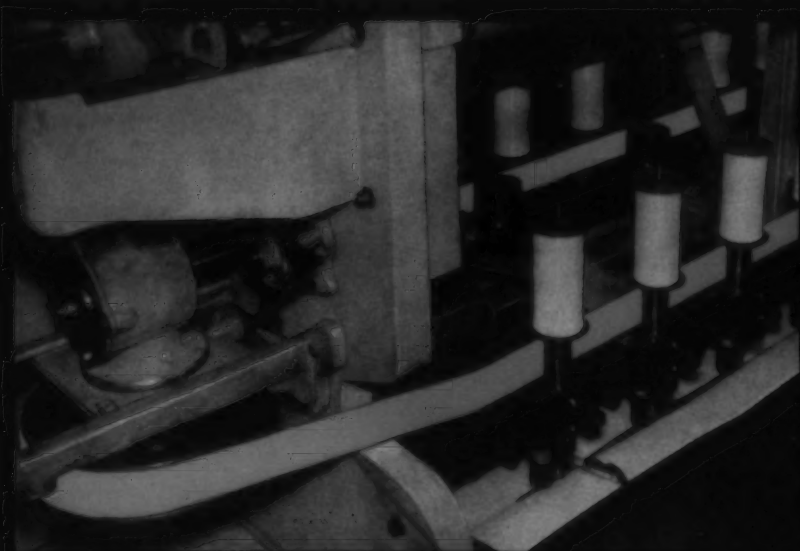
He was head of the Textile Section of the National Defense Advisory Commission in 1940, has been a member of the Business Advisory Council for the Department of Commerce since 1941 and served as chairman in 1951 and 1952. He served as a Class B director of the Federal Reserve Bank of New York from 1934 to January 1942. In 1948 he was designated a Class C director and chairman of the bank, a post in which he served until he joined the Eisenhower Administration in January of 1953. He is a trustee of the Mutual Life Insurance Co. of New York, and a director of the General Electric Co., Morgan Guaranty Trust Co. of New York and Owens-Corning Fiberglas Corp. He is chairman of the Laymen's Committee of Religion in American Life.

His association with the Army began in World War I when he served as a 2nd Lieutenant, Field Artillery. In 1941 he attended the Command and General Staff School, Fort Leavenworth, Kansas, graduating the day before Pearl Harbor. He served as a Colonel in the Office of the Quartermaster General in 1942 and from 1943 through 1945 was Deputy Director of Purchases. He was awarded the Medal of the Legion of Merit and the Distinguished Service Medal. Upon his resignation as Secretary of the Army in July 1955 he was awarded the Exceptional Civilian Service Medal of the U. S. Air Force, the Navy Distinguished Public Service Award and the Medal of Freedom.

A graduate of Yale University, he served from June 1950 through June 1956 as an Alumni Fellow of the Yale Corp. He holds an LL.D degree from Presbyterian College; Doctor of Commercial Science, New York University; Doctor of Humane Letters, Lafayette College; Doctor of Textile Industries from Clemson College; LL.D. Syracuse University; Doctor of Science from Norwich University; Doctor of Textile Science, North Carolina State College; LL.D from University of Kansas City, Mo.; and Doctor of Textiles, Philadelphia Textile Institute.

He previously has served a three-year term as a member of the A.C.M.I. board of directors.

MODERN EXTREMULTUS BELTING



**MAINTAINS
CONSTANT
SPINDLE
SPEED**

For increased power transmission belt efficiency use EXTREMULTUS on these textile applications too!

- WINDERS
- WOOLEN CARDS
- COTTON CARDS
- AUTO LEVELLERS
- PICKERS
- SPINNING FRAMES
- ROVING FRAMES
- OPENERS
- LOOMS

TWISTERS

INCREASE PRODUCTION Extremultus belting will not stretch . . . will not slip . . . even on starting. This enables you to maintain constant spindle speed on twisters for more production . . . every day. Constant spindle speed means better build up . . . uniform twist.

REDUCE MAINTENANCE Because Extremultus will not stretch you eliminate costly downtime for belt take-up, or replacement. Extremultus also reduces bearing loads and will outlast all other belting, eliminates lap failures.

(Even oil from spindle will not cause Extremultus to slip)

Write for Extremultus catalogue and the name of your local distributor. Ask him to prove what Extremultus can do on the drive you select.

**THE BEST DRIVE AT
THE LOWEST COST**

EXTREMULTUS, INC.

25-11 40th Avenue, Long Island City 1, N. Y.

attitude toward the industry must be formed if it hopes to counter the difficulties pressing upon it from all sides.

He recommended two basic appeals aimed at mustering public understanding and support for the industry's stand on imports. He urged that the industry first appeal to the public's sense of justice by explaining the nature of foreign competition and its ruinous impact on the American economy as well as the textile industry. The second appeal would emphasize enlightened self-interest by showing that the best interest of the free world, the American economy and public are best served by an equitable system of imports quotas.

Of equal importance to the present and long-range public relations of the industry, he pointed out, is an extensive public education program showing the industry as modern, dynamic, progressive, essential to the economic vigor and security of the nation, highly sensitive to the volatile needs and desires of the American consumer and providing the public with a bewildering array of quality products at reasonable prices.

To provide a firm foundation for its public relations program, the A.C.M.I. undertook the first extensive public opinion survey ever conducted for the American textile industry. It was explained to the meeting by Walter G. Barlow, president of Opinion Research Corp., Princeton, N. J. He said that the survey indicates that the general public has a widespread lack of knowledge about the industry as a whole and fails to achieve the acclaim enjoyed by the automobile, drug, chemical or steel manufacturing industries—all because of a lack of information.

General public attitudes toward textile manufacturing are mixed, he explained, although the industry is generally regarded as having improved fiber quality, seeking new product uses, being research minded, alert to changing consumer needs, providing steady employment and a large number of jobs by being a large industry, having modern plants and equipment, having an important role in the defense effort and paying its fair share of taxes.

Survey respondents who indicated awareness of the high volume of textile imports cited compulsory labeling of imports and forced quota restrictions as the most effective ways to counter foreign competition.

Dr. William H. Miernyk, director of the Bureau of Business and Economic Research at Northeastern University, Boston, told the meeting that the textile industry's economic cycle can be minimized through the use of a "set of analytical tools," including statistical analysis, development of a mathematical model and use of stimulation to work out production schedules.

Noting that there have been 15 cycles in the cotton textile industry since the end of the first World War, Dr. Miernyk said, "The textile industry is more volatile than manufacturing industry in general. The casual observer often assumes that textile activity follows the path of general business activity quite closely. But the statistical evidence on this score is clear. It shows that in textiles there is an independent cycle which coincides only at times with broader fluctuations."

But he warned, "no amount of scientific analysis of the textile cycle will lead to its ultimate control without some changes in management behavior patterns. The impact of the textile cycle is uneven. I am not the first to suggest that management try to eliminate the six-day week during the upswing of the cycle and I am sure I will not be the last.

"But, I feel reasonably sure about one point—unless the six-day week is eliminated the industry cannot look forward to a more controlled cycle in the future than it has experienced in the past."

Another **FIRST** from

EXTREMULTUS and **WHITE BEARINGS CO.**

ENDLESS BELTS FROM STOCK!

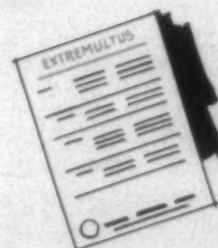
Endless belts for cards
(Lickerins, Doffers, Flats)
Roving Frame Cone Belts
Picker Evener Cones
And others—

All popular sizes in STOCK!



CUSTOM INSTALLATION FOR YOUR MILL

A simple record, quickly developed by our engineers establishes standard belt numbers for YOUR machinery and YOUR plant use — Precisely identifies each belt to its proper application on each drive, each machine.



Write or call for
this free service

EACH BELT BOXED FOR PROPER IDENTIFICATION

Each belt individually boxed and identified by simple number for clean, efficient storage, handling, installation.



These **EXTREMULTUS** firsts add up to:

- Quick service from stock
- Simplified ordering
- Easy handling
- Longer life
- Quantity prices

WHITE BEARINGS COMPANY

CHARLOTTE • SPARTANBURG

Nonwoven Fabrics And Shuttleless Looms Discussed At A.S.M.E. Textile Conference

WATCH FOR TREMENDOUS GROWTH IN THESE FIELDS IN THE FUTURE, SPEAKERS TELL CONFERENCE MEMBERS

NONWOVENS and shuttleless looms have been making rapid strides in the textile field and are now ready to move even faster and further according to speakers at the Textile Engineering Conference of the American Society of Mechanical Engineers. The conference was held in Clemson, S. C., March 16-17.

Both of these fields were aired in the two-day meeting, with emphasis being placed on nonwovens. T. D. Efland, head of textile research at the Clemson College School of Textiles, Harold H. Langdon, vice-president and chief engineer for the Curlator Corp., East Rochester, N. Y., and Maurice A. Goldman, president of Fibre Products Laboratories Inc., Newark, N. J., agreed that nonwovens were in for a tremendous growth period and should be able to invade the apparel field shortly.

Shuttleless looms were described as a tremendous step towards totally automatic weaving by A. E. McKenna, head of weaving and design at Clemson, R. J. Farr, assistant to the president and technical director of sales for Edda International Corp., New York City, and J. D. Marshall, division manager of the Draper Corp., who works out of Spartanburg, S. C.

Nonwovens

The term nonwovens is a misnomer. "It is analogous," said Efland, "to describing a dollar bill as a non-silver dollar—an implication that all currency should, by nature, be silver."

A good definition, he continued, would be a fabric or fabric-like structure that has been made from a fibrous ma-

terial without first being processed into yarn. This would cover just about any phase of nonwovens produced today.

Some of the methods used to make these fabrics include migration of fibers, needle punch loom methods and chemical bonding.

The first nonwovens and the forerunner of woolen nonwovens, were the hair felts. Manufacturers of these true felts utilize the migration of natural fibers from heat and mechanical agitation in the presence of a lubricant. The lubricant adheres to the hairs' differential surface scale and uses its low modulus of elasticity, especially when wet, to cause the fibers to entangle.

Efland pointed out that needle punch looms produce a fabric very similar to the hair felts. The looms incorporate barbed needles which are thrust through the mat of fibers and then withdrawn. This to and fro action tucks and draws the fibers into the mass. According to the speaker, no chemical bonding is needed because the resulting entanglement of the fibers produces sufficient strength in the fabric.

Web Formation

The basic step in most nonwovens is the forming of the web. First and the most widely used method, said Efland, is mechanical formation. This is accomplished by standard textile machinery, usually the cotton or woolen card. Several of these machines can be used in tandem to control the weight of the web. The webs can be uni-directional, which means that nearly all of the fibers in the web are generally parallel to the line of flow, or they may be cross-layed. The cross-laying of a web simply means that a web is layed cross-wise to another. Cross-lay cards must be equipped with aprons and cross-laying mechanisms to produce this type web.

This mechanical formation of webs led to the development of the air-lay process that is being used in some segments of the industry today, said Efland. Through mechanical means, the fibers are separated from the mass and routed into high velocity air currents. Using the principle of the condenser, the fibers are matted in a random manner on two revolving screens. As they are rotated together, a web is discharged. The weight of this web can be controlled very easily by means of a few simple adjustments, said the speaker.

Not part of the web formation group, but still as much a nonwoven as the others are the wet-lay method fabrics. Fibers $\frac{1}{4}$ -inch and shorter are dispersed in an aqueous solution of chemical bonding agents and dried or cured to form a fabric. The dispersion is designed to produce a random arrangement of the fibers in the fabric and an appearance similar to paper.

Chemical Bonding Of Fibers

Chemically bonded nonwovens are the most common of all nonwoven fabrics, said Efland. Basically, they can be broken



Some 165 people attended the March 16-17 textile engineering conference sponsored at Clemson by The American Society of Mechanical Engineers.

down into two groups—the wet process fabrics and the dry process fabrics.

The wet process involves the use of solvents, solutions or emulsions. In solvent bonding the solvent or swelling agent softens or gelatinizes the fibers which are then bonded under pressure.

A thickened binder is applied by the printing industry for local or spot applications to obtain varied patterns in non-wovens.

Spraying an emulsion onto the fiber mass allows a lower level of bonding which is utilized to impart a loftier hand to the fabric.

A foam system for bonding of fibers is also used in the wet process category. A binder is incorporated with a foaming agent that is spread over the web. As the foam collapses, the binder is dispersed throughout the web without disturbing the arrangement of the fibers. This result is then dried or cured producing the nonwoven.

Efland said that in all of the wet process systems, migration of the binder causes both surface deposition and localizing. The former results in delamination and the latter stiff spots and weak points in the fabric.

The dry process of bonding is relatively simple, Efland pointed out. Thermoplastic fibers, such as low melt acetate, are combined with the web before heating. With the application of heat, the fibers are bonded together into a fabric. Hot calender rolls impart a dense, firm hand to the fabric, while a curing oven gives a loftier hand but less strength.

A thermoplastic powder sifted onto the web before heating is another method of bonding in the dry process procedure. The fibers in the web are joined at the contact points when heat is applied.

In summation, Efland said that if nonwovens are to be utilized for apparel fabrics and other common consumer items, three phases of production must be examined. These are fiber technology, web formation and binder application.

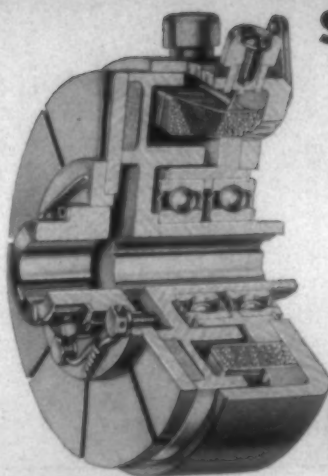
Fiber technology and web formation procedures are well advanced at this stage, he said, so the main emphasis must be placed on finding new and better binders and means of applying them. He outlined some of the problems confronting the chemist in these fields. These are the bonding of two oriented molecular structure fibers at point of contact with an unoriented polymer; solvent resistance; wet and dry tensile; tear strength; and odor.

Nonwoven Machinery

What progress has been made towards improving existing machinery or even developing new machinery for the non-woven industry?

Howard H. Langdon, vice-president and chief engineer for the Curlator Corp., said that his company had been making considerable progress towards this end. He outlined the operations of both the Rando-Feeder and Rando-Webber for the conference.

These machines can be used separately or in tandem. The Rando-Feeder puts the fibers in a mat form for the Webber. It has a conventional hopper and apron but incorporates an air stripper. The fibers are stripped from the apron by air and transported to a trumpet-shaped duct that extends across the width of the machine where a suction pressure is maintained by a fan. A rotary condenser and undercarriage feed the mat forward. According to Langdon, this creates a stationary front and results in a continuous volumetric measurement under



**Small Units
for
Big
Textile
Jobs!**

EATON DYNA-TORQ

MAGNETIC-FRICTION CLUTCHES and BRAKES

Now Available in a Full Line from 1¼" to 15" Diameter

Eaton DYNA-TORQ Magnetic-Friction Clutches and Brakes provide a simple, accurate, responsive method of controlling power and motion in up-to-date production and processing machines.

DYNA-TORQ Magnetic-Friction Equipment Offers these Important Advantages:

- Accurate power control
- Dependable motion control
- Rapid response
- Easy "built-in" installation
- Low maintenance costs
- Inter-changeability of parts

Textile Applications

- | | |
|---------------------|-------------------|
| ★ Slubbed Yarn | ★ Looms |
| ★ Inspection Tables | ★ Motor Brakes |
| ★ Batchers | ★ Unwind Stands |
| ★ Warpers | ★ Spinning Frames |
| ★ Blenders | ★ Twister Frames |
| ★ Cutting Machines | |

**Send for New Illustrated Bulletin Covering DYNA-TORQ
Stationary-Field Clutches and Replaceable-Face Brakes**

Represented in the Carolinas by



ELECTRO-MECHANICAL ENGINEERING COMPANY

CHARLOTTE 8, N. C.
2318 ARTY AVE.
Phone 33 4-5557

GREENVILLE, S. C.
501 E. NORTH ST.
CEdar 5-1152

pressure and at the same time assures longitudinal and lateral uniformity of the mat as it is passed into the Webber.

The Webber has redesigned feed rolls, nose bar and lickerin which are designed to improve opening and to release the fibers into a recirculating and humidified air stream. The air blasts the fibers into a free state and deposits them on a condenser in a random manner. This web is then used in the production of nonwovens.

Cardweb Versus Drawnweb Fabrics

Does the extra process of drawing enhance the properties of a nonwoven fabric? Maurice A. Goldman, president of Fibre Products Laboratories believes so. He outlined the preparation methods for each of these webs and advantages of each.

He said that the simplest nonwoven fabric for light and medium use is the warp and filling cardweb laminar fabric made of staple cotton. These fabrics can be produced having equal tensile strength to woven fabrics of the same weight and type of fiber.

Approximately 65% of the fibers in a tensioned web, he said, lie parallel to the line of flow, with the remaining fibers positioned at a 30° angle. The weight of a single web is usually in the neighborhood of 100 to 200 grains per square yard. Production for this type web is approximately two pounds per hour per inch of machine, he pointed out.

In the operational sequence for making cardwebs, Goldman pointed out, the cards are set in warp web ranges and filling web ranges. These webs are then conveyed to a combining range, where they are blended into fabrics up to 16 ounces per yard, suitable for simulated leather backing. He said that the filling and warp webs may be of different fibers and that the filling web can represent 25% or more of the total fabric.

The cardweb fabrics have a determined concentrated strength in industrial directions and stretch in diagonal directions. They are suited for baggings, plastic laminates, simulated leather, awnings, book-bindings, abrasive backings, asphalt impregnations, friction tapes, etc.

Drawnweb fabrics have a very high tensile strength, said Goldman. They are usually made from 12-inch ribbon laps weighing 600 grains produced on a standard ribbon lap machine and drawn down to 150 grains through a single drawing head. This is passed continuously, while under tension, through a bonding range. The ribbons are then laminated under tension into wide fabrics of the weight required.

Goldman stated that these drawn fiber fabrics have at least twice the tensile strength of woven fabrics of equal weight

for use in conveyor and power transmission belting. He also said that the fabric is far superior to woven parachute webbing for heavy duty use.

In summation, he pointed out that these drawn laps could be made in standard cotton mills and sold to web manufacturers. Or else, he continued, the mills could install their own web forming machines and sell the webs to bonding companies.

He said that the purpose for and the lasting use of nonwovens is in industrial products. Improved service and economical cost will keep it in use and establish it as a constant factor.

Development Of Shuttleless Looms

For years the textile industry has been searching for ways to rid itself of the cumbersome shuttle, and the defects caused by it. The first successful step in this direction was the Warner & Swasey Sulzer weaving machine.

Describing it, A. E. McKenna, head of the weaving and design department for the Clemson School of Textiles, pointed out that the Sulzer does not completely do away with the shuttle, but does reduce its size substantially. The filling is located on the side of the machine in the form of a large package and is grasped by a miniature shuttle incorporating gripping fingers. It is only 1/4-inch thick, 1/2-inch wide and 3 1/8-inches long. The machine needs several of these shuttles because the filling is inserted in one direction only. This system of weaving also necessitates the use of a special cutting and tucking device.

A lever driven by a torsion rod which is loaded and fired by a cam mechanism is used to push the shuttles through a very small shed. As the shuttle reaches the far side of the cloth, it drops the filling and falls to a conveyor that transports it back to the original side of the machine. Here it is lifted into firing position again with its gripping fingers open, ready to grasp the filling as it is released by the feeder.

What About The D.S.L.?

The theory of operation and some results of tests concerning the Draper shuttleless loom were presented by J. D. Marshall, division manager of the Draper Corp., Spartanburg, S. C.

He said that currently there are more than 1,800 D.S.L.s located in some 15 mills. This loom inserts the filling by means of flexible steel tapes. The yarn is engaged on the right-hand side of the loom, carried to the center of the fabric and transferred to the left-hand tape to be pulled through the shed. The filling is on nine-pound cones on the right-hand side of the loom and is laid in two-pick cycles, one pick in a shed. This results in a smooth selvage on one side of the fabric and a clipped selvage on the other. The left selvage threads are on revolving spools, producing a leno weave to bind the selvage. The yarn protruding from this selvage can be clipped to within 3/8-inch.

The filling carriers are fastened to the tapes which are wound on reciprocating wheels on each side of the loom. The filling mechanism positions, measures the right length and cuts the yarn on the right-hand side of the loom.

The reed is mounted on a cam-operated, light-metal lay supported by metal swords. Lay cams provide a dwell of nearly one-half cycle, allowing time for the carriers to enter and withdraw from the shed.



Marshall, Farr, McKenna

Highlighting discussions on shuttleless looms at the Clemson meeting of the A.S.M.E. were Don Marshall, Draper Corp., R. J. Farr, Edda International, and A. E. McKenna, Clemson School of Textiles.

The D.S.L., Marshall pointed out, is made in 40, 44, 46 and 50-inch widths. These looms are designed to weave a reeded width of from nominal loom size plus five inches for a maximum or ten inches below nominal size. Including a 24-inch cloth roll and 32-inch diameter loom beam, the depth of the loom is seven to nine inches less than the Draper X-2. It has an operating speed of 220-250 p.p.m.

Other features of the D.S.L. cited by Marshall included: an electrical stop motion; no pawls or ratchet in the let-off; one-shot, grease gun or multiple loom system lubrication; anti-friction bearings; rubber torsion and synthetic bushings; and all timing of the loom is done from a timing wheel, located on the cam shaft.

At present, Marshall said, the D.S.L. is used only on spun yarns. However, Draper has received good results from a D.S.L. for synthetic filaments.

Pneumatic Filling Insertion

One of the first truly shuttleless looms was the Maxbo which incorporates the use of pneumatic pressure to insert filling, eliminating any shuttle or device in the shed. It was described to the meeting by R. J. Farr, assistant to the president and technical director of sales for Edda International Corp., New York City.

In the Maxbo loom a short, powerful, jet-like blast of air transports the yarn across the warp from two large-capacity cheeses on the left side of the loom.

The filling is measured and drawn-off the cheeses by a measuring drum, threaded through an eye and filling detector,

and then through the pick or air nozzle. A concentrated volume of air sends the filling flying across the warp and as the beat-up motion begins, the measuring drum is measuring a second pick. Farr said that this allows a much faster pickage, ranging from 330 to 400 p.p.m.

The let-off motion on this loom is entirely automatic and does not require continuous setting. It is actuated by the tension of the yarn and maintains constant warp tension from the full to the empty beam. Initial tension is obtained by use of tension springs.

All movements of the filling feeding device, harness, reed, take-up and warp regulator are incorporated in the box frames, Farr pointed out. Shafts are carried in ball or roller bearings to be lubricated once a year. Other lubricating points are fed from an oil pump built in the left-hand frame.

The filling stop motion incorporates permanent magnets to operate the contacts thus excluding wear. Either electrical or mechanical warp stop motions are available for use on this loom. Shears are located on each temple to cut the fringe. A two-end leno weave is used to bind the selvage on each side of the machine and each end is controlled by an electrical stop motion.

The pneumatic pressure is generated by a single-action air compressor. Because of the correlation between the timing of the compressor and the picking motion, there is no need for an air reservoir. However, there is a small tank (10x10inches) placed on the loom for piecing up. A suction nozzle is located on the right of the loom to receive the filling as it is blown across. A vacuum of six inches of water is required for this operation.

DID YOU KNOW WE SERVICE 5 STATES ?

Virginia, North & South Carolina, Georgia & Tennessee

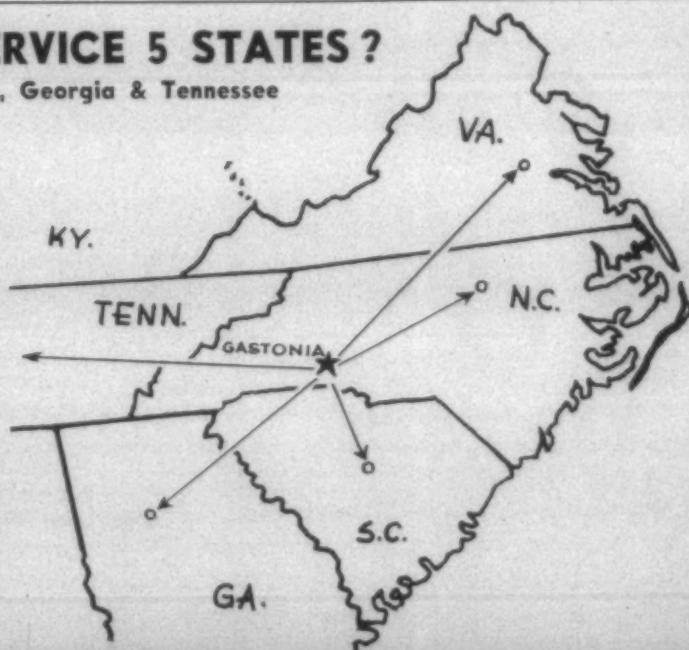
JENKINS Metal Shops trucks roll into these five states every week on scheduled runs to service their good clients with prompt and personal service.

Wouldn't you like to be included on the scheduled run through your state? You can . . . just drop us a line. We will pick-up and deliver and assist you in many ways.

We have representatives in New England and other Textile centers . . . also in Canada.

Our trained personnel will gladly explain our services and facilities. JENKINS Metal Products are numerous and are quality proven by years of service.

IN OUR 48th YEAR OF SERVICE



JENKINS METAL SHOPS, Inc.

P. O. BOX 1160

GASTONIA, NORTH CAROLINA

Are You Effectively Controlling Waste?

AN EXPERT SHOWS YOU HOW TO REDUCE UNIT COST BY CONTROLLING ALL THREE FORMS OF WASTE

TO make certain that we all have the same understanding of cost reduction through waste control, perhaps we should define the words that we're using. The first of these words is cost.

As we use the term—unit cost—we are thinking of the total monies spent to produce one unit of a product. Usually, the unit of measurement is the pound. However, in weaving and finishing plants, the unit may be the yard. Unit cost is expressed generally in terms of cents or in fractional or decimal parts of a cent. All monies spent are included, and our cost departments and accounting offices detail these monies in their many separate categories. These categories may vary from one company to another—but they must include raw material, direct labor, indirect labor, depreciation, heat or fuel, power, water, waste, supplies, maintenance, insurance, taxes, administrative expense, sales expense—all items which must be included in total unit cost. When all of these expenses are compiled, we arrive at a total unit cost—the cents per pound of yarn or cloth we produce.

Reduction Of Costs

By reduction, we mean making smaller, or cutting down. Our objective in cost reduction is to make smaller the unit cost of the pound of yarn or pound of fabric produced.

As management, we are striving constantly to find the means of reducing unit cost. We buy new machinery and equipment; we alter our plant layout; we adjust our operating speeds; we train and retrain our employees; we change our job loads or allocations; we try to obtain better raw materials at lower prices. Each of you could enumerate countless other actions you have taken in striving to attain the goal of cost reduction. Waste control is one of the most remunerative of these actions.

Types Of Waste

Our next term requiring definition is the word waste. We define total waste as being that part of the raw materials going into a plant which does not reach finished first-quality production the first time processed. To control waste is to maintain it at a reasonable, practical level consistent with quality production.

This broad term of waste needs to be broken down into its major divisions. In the mills, we think of three major types—salable waste, reworkable waste and invisible waste.

Salable Waste

The first type—salable waste—is the one to which many plants seem to give most attention. Salable waste is composed of the various cleaning classifications, thread or yarn waste of all types—soft and hard, sized and unsized, cloth or rag waste and floor sweepings throughout the plant. Included in cleaning wastes are those categories that we intentionally remove. These are: dust, trash, foreign matter, short fibers,

By **JAMES I. TEAT***



damaged fibers and other undesirable materials. Our primary consideration in controlling these wastes is quality. We think of these types as being quality-control problems rather than waste-control problems.

Reworkable Waste

Reworkable waste or returnable waste is our second major type. This type occurs primarily in the spinning mill, although certain forms of returnable material are produced in weaving, finishing and making-up plants. Reworkable waste is made in the form of lap, sliver, roving, yarn or cloth waste at various processes as the stock flows through the mill. Depending upon its source, this waste is returned to a preceding operation for reworking. This is a most costly waste, both from the loss of manufacturing costs expended on it and from the effects this reworked stock has on virgin raw material as it is added and reprocessed.

As we process textile fibers through our cleaning and parallelizing equipment, we damage them. We remove the natural oils, tallows and finishes from the surface of the fiber. We break fibers. We straighten out their curled-up edges, or—as the technologists say—we remove their convolutions and crimps. With some reworkable waste, we increase this damage by putting the stock through waste machines or garnetts before we start it through again. These damaged fibers are added to new stock. Frequently, their addition is not uniform. We add a bin-full here; wait a while; then another lot—not necessarily in any ratio to the total amount to be added. The result is uneven yarns, weak places, slubs, gouts, neps, end breaks, loom stops, lower efficiency, poorer quality and more work for our people.

Invisible Waste

Invisible waste—our third type—is a calculated figure. It takes into account moisture differentials between raw materials and finished products, processing materials added or removed and intangible factors which affect our yields. Wishfully we production people could say that this is the accountants' problem. Practically, we make every effort to control it—with our air-conditioning systems, size-control and stretch-control equipment, conditioning rooms and other means.

Salable waste, reworkable waste, invisible waste—these

*Southeastern Engineers, West Point, Ga. Presented before the Spring meeting of the Piedmont Division of the Southern Textile Association, April 6, 1961, in Charlotte.

three make up our total mill waste. Each can be—and must be—controlled to reduce cost.

Who Needs It?

How important is this subject of waste control in our cost reduction program? During the past 15 years we have had the privilege of serving over 500 textile plants in connection with their waste control efforts. These plants were of almost every description—some new, some old—some progressive, some conservative. The majority of these plants were running cotton, still king through on a more shaky throne. Woolen and worsted plants were included, as well as mills running the myriad types of synthetics and glass, both staple and filament. The number includes spinning, weaving, knitting, finishing and making-up plants; producing the many various textile products we need and use.

In each plant we calculate the cost of waste per pound of yarn or cloth produced. In the 450 mills we have seen this figure vary from small fractions of a cent per pound up to high two-digit numbers of cents per pound produced! When comparing similar plants, using the same raw materials, operating equivalent machinery and producing almost identical products, we have observed differences in waste cost ranging from fractions of a cent to as much as double.

The total cost of waste in many mills is greater than the total payroll of some of the major departments of the plant. We sometimes see large staff groups attacking the problem of labor utilization in these mills, with no one following up on waste problems.

We have seen a sound program of waste reduction and control lower unit cost in amounts greater than the profit margin of the plant in the previous year. We have seen savings of \$56,000 to \$280,000 per year through reduction of waste costs. These savings are concrete and real—and are continuing as long as the program is maintained. Potential savings vary, of course, with the size of the plant and with the type of goods being processed. In addition to these monetary savings, improvements in quality, efficiency and house-keeping are tangible results of waste control.

Necessary Or Unnecessary?

Some waste is necessary in order to maintain quality standards, meet production requirements and conform with cost considerations. We immediately think of the cleaning classifications when speaking of necessary waste, but other illustrations are apparent. Bunch waste or feeler waste left on the filling bobbin after transfer is one example. Seam waste in the finishing plant is another. Still another illustration is the roving left on the bobbin by the spinner, when she creels in a new package. All of us will agree that some waste is necessary at these and other points too numerous to list. Is all the waste made there necessary? Frequently, we find it grossly exceeding the minimums needed to comply with cost, production and quality requirements.

What Causes Waste?

Why this excessive waste? What are the factors which affect or determine the amount of waste in a plant?

We see these factors in six major groupings, not listed in the order of their relative importance.

First, the amount of waste made is affected by the grade, quality and characteristics of the raw materials put into process. In a spinning mill, the quality of the stock put in—

whether cotton, synthetics, wool or blends—determines how much cleaning waste must be removed. In a weaving plant, the quality of the yarn entering the plant—whether on cop, pirn, quill, cone, spool, section beam or loom beam—affects the amount of waste made in processing. Poorly built packages result in waste to the weaver. When the finishing plant receives improperly handled cloth, dirty or tangled, it is forced to make waste.

Our second major factor relates directly to the first. The amount of waste made is affected by the type, variety and quality requirements of the products being manufactured. Combed broadcloths require the removal of more short fibers than do carded coarse sheetings. We all recognize that a fancy mill, with many styles, colors and patterns will make more waste than the conventional greige print cloth plant.

Third, our plant, equipment, machinery and manufacturing methods affect our waste. Plant layout affects materials-handling; extra handling causes waste. The type of machinery and equipment we use affects our waste. Large-package equipment results in reduced waste. Three-process roving frames produce more remarkable waste than do one-process. The techniques and methods used in the plant affect the amount of waste.

The fourth factor consists of settings, speeds and mechanical condition of machinery and equipment. There is no substitute for good maintenance. Correct machinery settings and speeds produce high quality products with minimum waste.

Fifth, we come to people. The skills and the attitudes of our employees are major factors in the amount of waste we make. When operatives are not properly trained in the details of their jobs, they make excessive waste. When operatives are not waste conscious, they become careless and produce mountains of waste.

The sixth—and, in our opinion, the most important—factor is two-fold: first, the ability of line supervision to reduce and control waste; second, the interest supervisors manifest in doing this job. I use this term "supervisor" in its broadest sense—to include all those who are responsible for the work of people. There is no single factor so important to successful operation in this highly competitive industry as is close, adequate supervision. Leadership is not a forgotten art. People can be led by skilled foremen.

Hints To Control Waste

To sum up briefly, we have talked of the definitions of the terms we are using, of the objectives we seek, of the major types of waste in our mills and of the factors that affect the amount of waste made. How do we go about reducing the waste we are making?

It is our considered opinion that the more logical, the more systematic, the better planned and better organized your approach to waste reduction and control, the better your results. We believe that it is your responsibility as directors, managers, superintendents, technicians and supervisors to plan this program as you plan other programs in your plants.

First, we recommend that you find out how much waste you are making now. This must be done accurately. You will need proper waste containers, good scales, and an organized system of collecting, weighing and reporting your waste. Baled waste sold records will provide some information. With accurate waste figures, you can calculate the cost of waste to your plant. You will need to use raw material prices,

(Continued on Page 91)

Check Your Opening, Picking And Carding Waste

UNNECESSARY WASTE CAN BE REDUCED BY GOING TO LOWER PRODUCTIONS AND OPENING THE STOCK WELL

FOR the purpose of this paper, let us put all waste into two categories—(1) necessary; and (2) unnecessary. Necessary waste starts with bagging and ties removed from the bales in the opening room; this averages 3.9%. This is something over which we have little or no control. However, we do have considerable control over waste removed in opening and picking, at the cards, and in combing. It is waste because we buy and pay for it but do not spin it into yarn. It is "necessary waste" because we would not stay in business very long if we did try to spin it all into yarn.

Unnecessary Waste

Unnecessary waste is cotton which we wish we had spun into yarn but which we haven't. And I mean the first time we tried, not after we reworked it two or three times. I need not point out how thoroughly a spinning room can be torn up by some guy on the third shift throwing in 10-15% reworkable waste when no one is looking. (Did any of you ever have it happen on the first shift?) Most unnecessary waste comes under the category of "reworkable waste."

Other Types Of Waste

But I want to digress for just a bit and touch upon other types of waste. In addition to necessary and unnecessary cotton waste—which is waste of material—let us not forget that we are also severely penalized by unnecessary waste of manpower, unnecessary waste of floor space, unnecessary waste of machines and unnecessary waste of supplies.

Waste of supplies is a field within itself. Costly waste of expensive material is usually the result of poor or careless maintenance.

Waste of machines is a category which is ordinarily thought of as running too slow—but this is not necessarily the most common cause of waste of machines. Speed is not everything. If you are running spinning at 11,000 r.p.m. spindle speed, for instance, at 20 ends-down per thousand and jump the speed up to 12,000 r.p.m. and the ends-down jump to 40, you may decrease a so-called waste of machines but you are sure as the deuce getting into a waste of manpower.

Waste Of Manpower

Waste of manpower is something that needs to be taken into consideration in your dealings with machinery builders. Take the drafting element on a spinning frame, for example. Cleaning and roll picking use a lot of manpower.

Far be it from me to insinuate that a clean drafting element is wasteful. However it is wasteful to create an oil film on everything by over-lubrication. The excess oil used may not amount to much in itself but lint and fibers stick to the oil film and are difficult to clean off. This means wasted manpower because the cleaning is not only more difficult but has to be done more frequently.



By R. A. HUDSON*

Modern design is producing drafting elements today which requires less cleaning because of smoother design and because of the use of anti-friction bearings for top and bottom rolls

Picker And Card Waste

Enough digression. Let us go back to "necessary" and "unnecessary" picker and card waste. These two are so overlapped and inter-twined that it is impossible to isolate them completely. It is necessary to make some reworkable waste. For instance, tearing off a doubled end at the bottom of a picker lap and putting it into reworkable is certainly necessary if we do not want to tear up our card clothing. But we do not want to spin this into yarn anyway, because it would give us a heavy end if it would go through a card.

Another example might be the throwing into reworkable of a few yards of card sliver, which is light because of stripping. We certainly do not want to spin this into yarn. It is a waste to make it in the first place but where it is already made it comes under the definition of necessary waste.

Opening And Picking

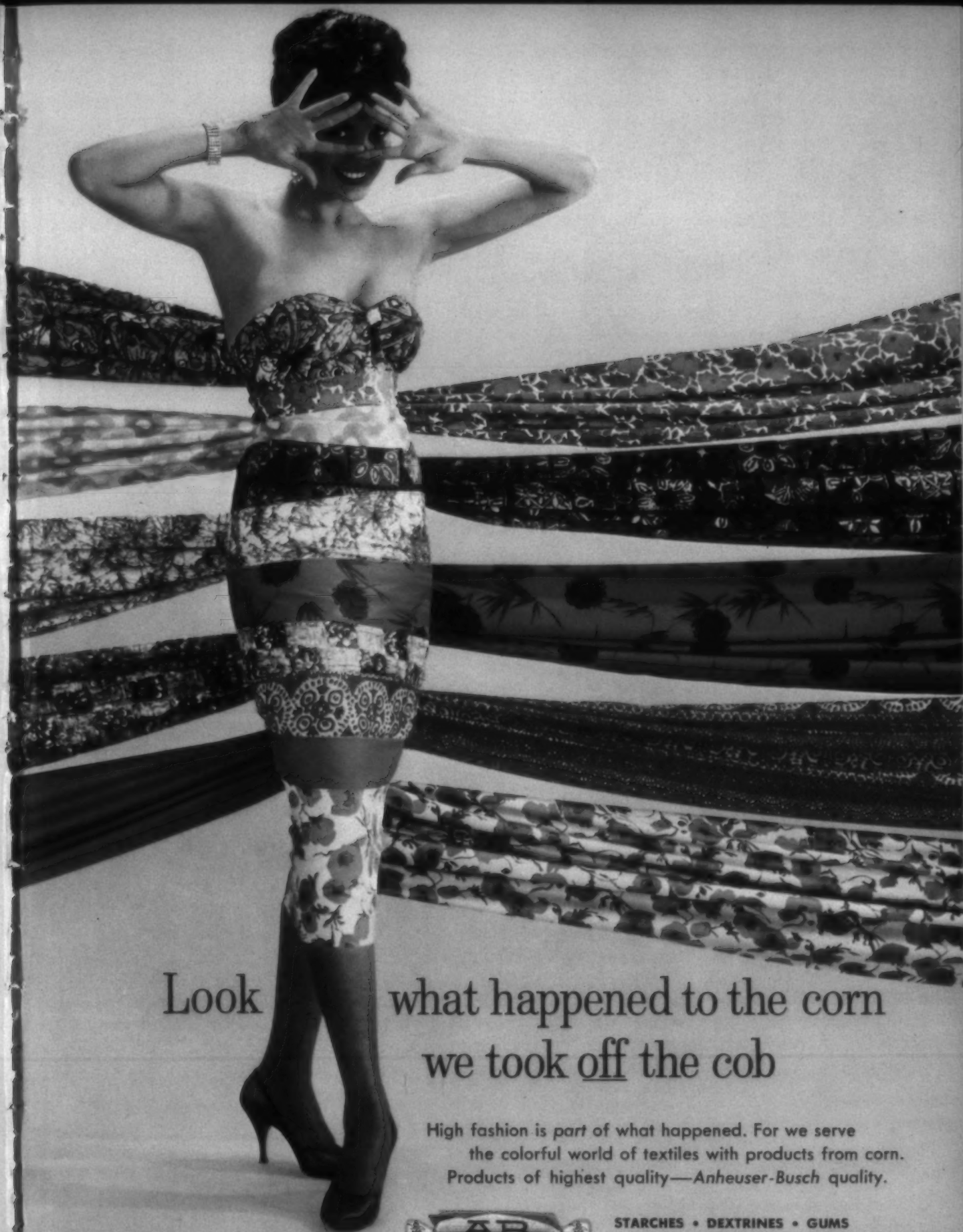
Now let's talk about opening and picking. Here, we want to remove as much as possible the necessary waste without removing unnecessary waste. In other words, we want to get out trash and matter that we do not want to spin into yarn without taking out fiber which we do want to spin into yarn. Necessary waste is composed of four things:

- (1) Short fibers too short to spin—usually classified as fibers under one-half-inch in length.
- (2) Sand and earth particles from the soil in which the cotton plant grew.
- (3) Leaf, stem and seed particles from the cotton plant itself.
- (4) Usable fiber, i.e., fiber greater than one-half-inch, also finds its way to the waste house through breakage and inefficiencies in processing.

Naturally, the percentage of waste removed varies from cotton to cotton and also varies mill to mill for the same cotton and even varies for different constructions in the same mill.

During the past 25 years, important changes have occurred

*Administrative Engineer, Saco-Lowell Research and Development Center, Clemson, S. C. Presented before the Spring meeting of the Piedmont Division of the Southern Textile Association, April 6, 1961, in Charlotte.



Look what happened to the corn
we took off the cob

High fashion is *part* of what happened. For we serve
the colorful world of textiles with products from corn.
Products of highest quality—Anheuser-Busch quality.



STARCHES • DEXTRINES • GUMS

For warp sizing, finishing, printing and dyeing.

ANHEUSER-BUSCH, INC., Bulk Corn Products Division, St. Louis, Missouri

in harvesting and ginning methods. Important changes have also been made in opening and picking machinery and these changes have significantly advanced our cleaning techniques.

The ability to obtain a clean yarn in spite of dirtier cotton resulting from machine harvesting is a tribute to the combined efforts of the mills, the machinery builders and the ginner. But we cannot rest on any laurels because there is a lot of work yet to be done.

Changes In Cotton

Most of you have followed the significant changes in cotton itself over the years and are familiar with the changes in fiber grade and characteristics which have exerted an important influence on cotton processing waste.

As you know, the average grade of U. S. cotton has gradually declined from Middling in the 30's to Strict Low Middling in the 50's and bounced back to 100 Middling for 1960. Although it seems that more cotton of lower grades is available today than in the past, averages of physical properties have shown a gradual improvement. During this same 30-year period there have been fluctuations in average fiber fineness around 4.5 micrograms per inch.

It is encouraging to note that during this same period the average fiber maturity continued at an index of approximately 80 and that there has been a gradual climb in the average fiber tensile strength index from less than 90 to more than 100.

Individually none of these characteristics exerts as much influence on waste as does grade. However, their combined effect indicates that less waste should occur in cotton processing.

This hypothesis is borne out by a study conducted in more than 200 mills by the National Cotton Council on 27 fabric and 13 yarn classifications. In 1930 the average waste factor for the cotton textile industry was nearly 18% (excluding baggage and ties, 3.9%). This survey reveals that the current average waste for the industry is now more like 13% (including comber noils). This is an overall industry production gain of 5%. Why then are so many people still interested in waste control?

Shirley Analyzer tests of non-lint content for white grades show the following approximate waste percentages:

SM—3%
M—4%
SLM—5%
LM—6%

The average percentages of picker and card waste for these same grades of cotton average roughly as follows for 1960:

SM— 6%
M— 7%
SLM— 8%
LM—9.5%

From a comparison of these two tabulations, one can easily see why we are all concerned about the conservation of good fiber. For example, on Middling White, the difference between the Shirley Analyzer non-lint content of 4% and the picker and card waste of 7% is truly significant.

More use should be made of the Shirley Analyzer to determine what percentage of the waste is lint and what percentage is trash. Also, more emphasis should be placed upon fiber sorting (or at least a very careful examination) of the lint from the Shirley Analyzer because all of the lint is not necessarily spinnable.

Actually, in studying the efficiency of a cleaning machine, we should add the amount of fiber under one-half-inch to the

trash and the invisible and call all of this necessary waste because we do not want it in yarn. Suppose our Shirley Analyzer of droppings from a cleaning machine comes out:

65% Trash
32% Lint
3% Invisible

Then, let us suppose that we find the lint contains 50% of fibers under one-half-inch length. Fifty per cent of the 32% lint is 16%. So, we add the 16% to the 65% trash and 3% invisible and come up with a total of 84% of the droppings as being necessary waste or material that we want to remove, and only 16% of the droppings as being spinnable fiber.

Removing Trash, Motes

We are all faced with the problem of how to remove trash, motes and fibers which we do not want to spin in opening and picking without removing spinnable fibers that we do want to spin into yarn. Two things are paramount if we are going to do this properly:

(1) We can do a better job of separation at lower productions; and

(2) We can do a better job of dropping out or throwing out trash and motes without rejecting good fiber if first we open the stock well.

These two items go pretty much hand-in-hand.

If we try to clean big lumps of cotton, it is like trying to shake motes out of the middle of a big, hard lump of good fibers and we are going to remove a lot of good fiber with the motes. High speed combs in the blending feeders are essential in starting to break stock into small pieces. We have recently found that the use of pin type beaters along with adjustable grids in place of the old conventional doffers with leather blades in F-7 feeders results in better opened and cleaned stock. We also obtained an increase in droppings in the No. 15 opener following the feeder when this pin beater or spiked doffing roll was used. We are presently investigating the use of this same arrangement in the blending reserve.

An Auxiliary Doffer

There is one other fairly recent development which I would like to touch upon briefly, and that is the application of a second doffer to the No. 11 condenser. This second (or auxiliary) doffer is applied about halfway around the screen between the intake and the regular doffer, which removes the stock from the screen and throws it out of the condenser.

With the regular No. 11 condenser we form a mat on the screen and in doing so remove a lot of pepper trash and fly. However, most of this comes from that half of the mat which lies next to the screen. We still have a lot of trash and fly left on the outside of the mat.

The second doffer takes the stock off the screen and redistributes it back onto the screen again, almost as if it were picked off and laid back on again up-side-down. The stock is given a good shaking in the process of redistribution. The increase in pepper trash and fly drawn through the condenser screen and deposited in the filter mat is almost unbelievable. One mill has reported a 12% reduction of trash content of card webs and 10% less trash in the yarn.

Although developments in opening and picking do not appear to be as revolutionary as the changes that have taken place in other departments of the mill, these improvements are largely responsible for yarn of good break and high quality at low manufacturing costs.

Some Progress Reports On Research At T.R.I.*

The Effect Of Radial Heterogeneity On Fiber Properties

By R. W. SINGLETON
Celanese Corp. of America

TWO model fibers—Cellulose Triacetate, wet spun and dry spun—were chosen for tests concerning the degree of molecular orientation of the skins and the amount of influence this phenomena had on the dyeability of the fibers.

Rapid coagulation was achieved in the dry spinning process by flashing the solvent rapidly from the fiber surface, while slow coagulation was achieved by the wet spinning process in which the solvent was leached out by water.

The skins of these fibers were removed through saponification and dissolution of the saponified material with Cuen and water. Dye, stress and elongation tests were performed as successive layers of skin were removed to find any significant differences in the yarn spinning processes.

Test results showed that the wet spun fiber did not change to any great degree in any of the tests performed, indicating no surface hardening.

The presence of a less extensible skin on the rapidly coagulated dry spun cellulose triacetate was demonstrated by the decrease in lateral crack formations upon surface removal.

*Textile Research Institute, Princeton, N. J. Abstracted from papers presented at the institute's 31st annual meeting held March 16-17, Hotel Commodore, New York City.

Definite cracks appeared in the surface of the fiber before rupture, leading to the hypothesis that this skin restricts the ultimate strength and elongation of the fiber.

This coupled with the lack of crystallinity suggests that the radially dependent mechanical and dyeing properties are associated with an increasing degree of molecular orientation near the fiber surface. This was partially substantiated by the fact that dyeing absorption was greatly increased in the dry spun fiber after the skin was removed.

The lack of change in the dyeing behavior of the wet spun cellulose triacetate, resulting from surface removal, indicates the observed effects with the dry spun fiber to be a function of fiber structure rather than of any chemical change resulting from the desurfacing treatment.

An Automatic Doffing System For Spinning Frames And Twisters

By ROBERT W. McCULLOUGH
Deering Milliken Research Corp.

PREVIOUS attempts to develop automatic doffing machines fall into two categories—those which doff bobbins one-at-a-time and those which doff in groups of six or twelve. However, Deering Milliken's new doffer uses two entirely new concepts—all bobbins on a frame are to be doffed at once and all bobbins must be lifted straight up.

The doffer has six major components: the bobbin handling equipment; load/unload station; overhead transport system for doffing mechanism; doffer mechanism; frame mounted guides; and a cleaning system.

The bobbin handling equipment is designed to sort, orient and distribute over 170,000 bobbins per day. It spaces the bobbins properly, puts them in an end-to-end position and checks them for defects.

They are then conveyed to the load/unload station. Short, spindle-like pegs mounted on conveyors receive the bobbins and hold them upright so the doffer mechanism can pick them up.

The doffing mechanism is located on an overhead crane and can move both forward and sideways. The cranes are mounted on overhead runways one on each side of a bay. Blower-type frame cleaners are also located on these runways. The doffer, cranes and frame blowers move forward at a speed of 135 feet per minute and crosswise at 25 feet per minute.

An automatic control system allows the doffer to search for

ABSTRACTED IN THIS REVIEW

The Effect Of Radial Heterogeneity On Fiber Properties

R. W. Singleton, Celanese Corp. of America

An Automatic Doffing System For Spinning Frames And Twisters

Robert W. McCullough, Deering Milliken Research Corp.

Studies Of Wool Fibers Relating To Minimum-Care Applications

J. H. Dusenbury, Textile Research Institute

Problematics In Reactive Dyeing

Jacques E. Wegmann, Ciba Ltd.

Some Aspects Of Fatigue In Man-Made Fibers

W. James Lyons, Textile Research Institute

Polypropylene Textile Fibers

Gilman S. Hooper, Hercules Powder Co.

Effect Of Fiber Tension In The Resin Treatment Of Cottons

L. Rebenfeld, Textile Research Institute

Some New Interpretations Of The Tire Cord Fatigue Phenomenon

W. G. Klein, Fabric Research Laboratories

frames that will doff within ten minutes. It stops and places itself over this frame ready to operate. Push-button controls lower rails on each side of the frame and individual graspers are positioned over each spindle. The graspers utilize low pressure air and soft rubber grippers to grasp the bobbins. The bobbins are then lifted vertically from the spindles. As the bobbins are lifted, the empty bobbin rail moves into position. Empty bobbins are placed on all spindles and then both rails are raised simultaneously. The doffer returns to the load/unload station and stops there.

While the doffer is in operation, the load/unload station has replenished the empty bobbin supply for the next frame. When the doffer returns, an operator uses a push-button to lower both rails, releasing the full bobbins and grasping the empty ones. The full bobbins are placed on individual pegs to be transported to another operation. After the doffing mechanism leaves, the station begins to accumulate another set of empty bobbins.

Advantages of the machine are: fewer ends-down from doffing; two minutes to doff; can doff 6 to 16 frames an hour; twist is not a factor; spindle separators not required; and doffer works for machines located as little as 12 inches from columns.

All spindles on a frame are doffed simultaneously. The doffer will doff a 400-spindle frame as quickly as one of 240 spindles.

Short and long term effects of the doffer will be: higher spinning room efficiencies; reverses the trend toward larger rings; reduction of spindle spacings; and reduction of traverse lengths.

Frame lengths will become more standardized and spindle increments will be enlarged. Spindle speeds will be increased; costs per spindle will be reduced; there will be more direct spun filling; and techniques for automatic quality control will come into use.

Bobbins will become more standardized; spindle maintenance will be reduced; and new mill construction will plan for six to eight frames side by side between columns.

Production will be increased; drafting systems will be moved from over the spindles; and labor turnover in the doffer job and training costs will be reduced.

Studies Of Wool Fibers Relating To Minimum-Care Applications

By J. H. DUSENBURY
Associate Research Director, T.R.I.

A lightweight fabric produced from Australian Merino wool was used as a test sample to determine the effects of creasing, wrinkling and supercontraction of keratin fibers.

The fabric was subjected to crease-recovery and stress-strain tests in the wet and dry states. Dry conditions mean 70° F. and 65% relative humidity. DMEU—Dimethylol ethyleneurea—in the presence of zinc fluoborate as a catalyst was used to determine the extent of damage, if any, of a resin finish on keratin fibers.

The tests indicated that the addition of the resin reduced the breaking stress and breaking strain with little or no effect on the first part of the stress-strain curve. There appeared to be little or no correlation for comparing DMEU-treated fibers with fibers that are untreated in the crease-recovery tests. However, there is a striking negative correlation between the

results of the dry tests and those of the wet tests.

In stretching the fibers and then allowing a five minute "rest" period before the following tests, it was found that the DMEU treatments effected an increased elastic recovery in the dry fibers and a greater elasticity in wet tests than dry ones.

Dimensional stability during laundering of the keratin fibers was checked to determine crease recovery and shrinkage values. It was found that while DMEU had very little effect on crease recovery, it reduced shrinkage during laundering to a great degree.

Supercontraction was explored on human hairs, B. A. fleece wool and kid mohair to determine the amount of supercontraction on ortho-paracortical fibers. They were immersed in LiCl solution at 94° C. for 15 minutes resulting in a 15% supercontraction. However, when the fibers were treated with boiling water, they returned to normal length. This type contraction is called temporary contraction. Continuing the tests, the fibers were allowed to remain in the Lithium salt for two hours, giving a supercontraction of 25%. However, this time when the fibers were treated with boiling water, the supercontraction shot up to approximately 40%. Under a continuous measurement test, it was shown that the three fibers contract very rapidly the first hour under test conditions, with the human hair fibers contracting slower than the other two.

After four to five hours, the human hair is still slowly contracting, the fleece wool has stopped and the kid mohair has started reversing the trend after having reached a 35 to 40% contraction. This indicates different supercontraction rates for ortho, para or ortho-paracortical fibers.

The effects of setting fibers in boiling water reduces the stresses at various extensions along the fibers' stress-strain curves and reduces Young's modulus. Temporary set is described as that which the fibers retain after treatment and drying. Permanent set is obtained after the fibers are set and then relaxed for two hours in boiling water.

Problematics In Reactive Dyeing

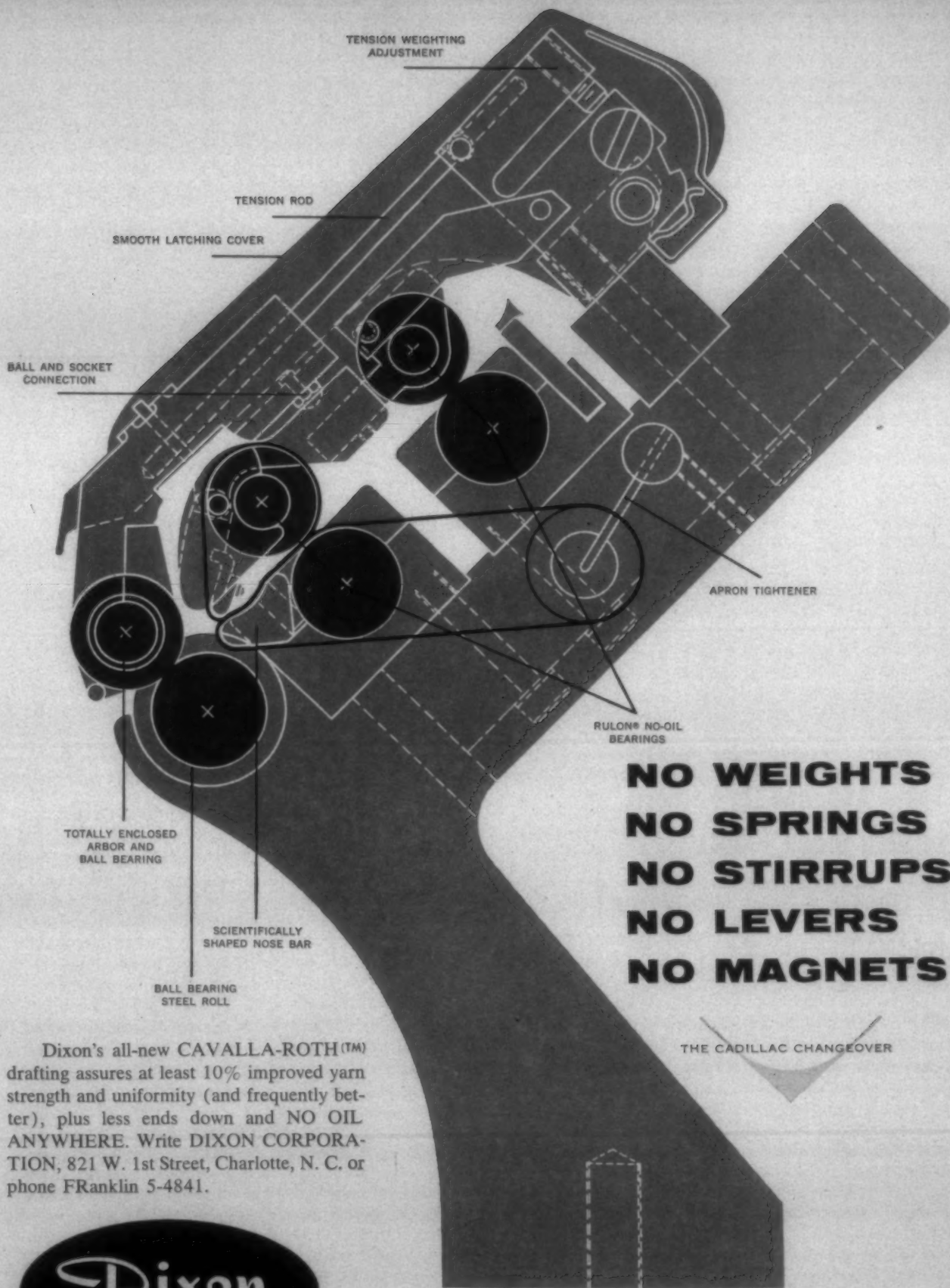
By JACQUES E. WEGMANN
Ciba Ltd. of Switzerland

THE characteristic difference between reactive dyes and all other known systems is that they become linked to the fiber by a covalent bond, thus becoming part of the fiber itself.

A valence bond exists between any two atoms that are held together by attractive forces strong enough to withstand molecular collision. There are several types of these including: polar bonds which are formed through the attraction of two ions or an attraction between an ion and a dipole; nonpolar bonds which are formed between two atoms sharing an electron pair; and molecular interactions which result from the attraction of two dipoles, between a dipole and a nonpolar molecule and between two nonpolar dipoles.

The dye industry should have no particular problems with these dyes because the dye constituents are known and controllable up to the finest detail. Also the application presents a wide choice of procedures.

First is exhaust dyeing in which the dyestuff has to come in contact with cellulose fiber through its own force. If the fiber is surrounded by water, no reaction will take place. Cellulose becomes hydrated in water through the addition of water molecules to the oxygen atoms, making it strongly polar. The anionic dye-molecules are attracted by long-range electrostatic forces and are attached to the cellulose by means



**NO WEIGHTS
NO SPRINGS
NO STIRRUPS
NO LEVERS
NO MAGNETS**

THE CADILLAC CHANGEOVER

Dixon's all-new CAVALLA-ROTH^(TM) drafting assures at least 10% improved yarn strength and uniformity (and frequently better), plus less ends down and NO OIL ANYWHERE. Write DIXON CORPORATION, 821 W. 1st Street, Charlotte, N. C. or phone FRanklin 5-4841.



ENGINEERED SPINNING CHANGEOVERS SINCE 1876

of sulfonic groups. Once the dye has been attracted, the short-range operatives go into effect and bond the groups together.

The reaction with hydroxyl groups in solution and with hydroxyl groups of the fiber must proceed according to a basically different pattern regardless of whether the hydroxyl groups are ionized or not. Chlorotriazinyl dye that has been absorbed, forms an oxonium salt with the oxygen atom of the glucopyranose. It becomes highly activated and favored by alkaline reaction, linking the nucleophilic, ionized hydroxyl group with the carbenium carbon of the triazinyl ring. The chloride in this reaction can be completely replaced by sulfate anions.

Since an amino group becomes more nucleophilic on the acid side, the reaction should proceed more easily in acid solutions. The reaction should also be favored by a low basicity of the carbon atom to be substituted.

After reaction with the fiber has been completed, the dyeing has to be rinsed and soaped to eliminate the by-products of the reaction. The use of salt-free water is advantageous because the least amount of electrolyte has an adverse effect on the desorption of the dye.

Due to anionic dispersing agents being used, adverse effects can also be expected in the soaping operation. The complexes formed are much more difficult to remove from the fiber than the uncomplexed dye. To get the best results in washing and rinsing use ordinary soap in soft water.

Two sources of possible difficulties in washing and rinsing have to be distinguished. Large dye molecules will remain in the fiber due to slow diffusion and may affect wet iron fastness. Small and rapidly diffusing, but relatively substantive dyes will wash out easily, but have a tendency to stain white material, especially when electrolytes are present in the bath. The only true solution to the second problem has proven to be the proper adjustment of dyestuff constitution.

Some Aspects Of Fatigue In Man-Made Fibers

By **W. JAMES LYONS**
Associate Research Director, T.R.I.

MECHANICAL processes of fatiguing man-made fibers in T.R.I. tests have employed cyclic longitudinal tension and biaxial rotation. The cyclic tension tests were made by a multiple-station machine accommodating six fiber specimens which were fatigued simultaneously at a common strain amplitude. Frequencies were continuously variable from 0 to 18 cycles/sec. and the total stroke was adjustable from zero to one inch on this machine.

For 25 specimens of acrylic fibers, a lifetime of 4.7 hours was determined. It was evident that neither the whole set of values nor any substantial group of them lay on a straight line as they should if the distribution of points was normal. A logarithmic normal distribution turned out to be the only means of obtaining a representative probability chart or curve for these samples.

A test was then performed to find the effect of frequency and stroke on fatigue life and extension at the break. The same type acrylic fibers were used for the experiment under strokes of 3.0 and 3.4% with a frequency ranging from 40 to 500 cycles per minute. The results of the tests indicated that fatigue lifetime is not solely a function of the number of

cycles endured and that the number of cycles to failure increased with an increase in the frequency of straining.

To determine the influence of rotary velocity and filament diameter on rupture properties of certain fibers, breaking tests were initiated at zero for unfatigued fibers. As the tension was increased the trends in the breaking extensions followed quite closely those of the tenacities of these fibers. Rupture properties were found to decrease with increasing rotary velocity, though generally at a lower rate in the range of higher velocities. Smaller diameters of fibers were found to be less affected by biaxial fatiguing or by the increase in rotary velocity.

The fibers after fatiguing were put under microscopic examination and the nylon 66 monofil tested showed fracturing along the internal surface that intersects the fiber surface along diagonal lines. There was little or no indication of fibrillation in the usual sense.

Nylon 6 specimens showed a bulbous expansion in the fatigued region and nearly-transverse fissures that did not appear in nylon 66. However, in one of the nylon 6 specimens, there were indications of a diagonal splitting which appears in the nylon 66 monofils.

Polypropylene Textile Fibers

By **GILMAN S. HOOPER**
Hercules Powder Co.

POLYPROPYLENE is derived from basic petrochemical propylene that has been polymerized by organo-metallic catalysts into a linear crystalline polymer of the isotactic type. It is about 97% stereoregulated and has a molecular chain length of approximately 8,000 propylene molecules.

Prolene (Hercules' polypropylene fiber) is produced by the melt spinning process and is highly oriented. The fiber has a round cross-section, but can be produced in variations. Tenacities for the fiber range from 5½ grams per denier (g.p.d.) to 7 g.p.d. Loop strength for the high tenacity material is approximately 80% of normal strength, while it is roughly 85% in the staple fiber.

The tensile properties and crystallinity of Prolene result in good resistance to growth under load. The fiber also has high abrasion resistance as measured by Stoll instruments. In comparison with nylon, the fiber does not quite meet the standards for the flex abrasion tests. These tests indicate a potential use in ropes, cordage, netting, upholstery and industrial fabrics as well as work clothing.

The fiber has only a .9 density, giving it high bulk tendencies and a decided advantage over nylon, acrylics, Dacron and viscose rayon as far as bulk tendency is concerned. It is chemically inert and very resistant to most acids and alkalis even at elevated temperatures. However, there are some aromatic and chlorinated solvents and vegetable and mineral oils that can cause swelling and even dissolution in the fibers. Prolene is designed to be handled through normal dry cleaning without damage. The melting point is around 332° F., with the fiber becoming sticky at 311°.

Strength retention tests showed that the polypropylene fiber retained 4 g.p.d. strength after four minutes at 120° C. At ten minutes and 175° C., the fiber retained 1.7 g.p.d.

Prolene fibers blended with wool or cotton in proportions of 10 to 30%, when subjected to high temperatures, produce a bulk two to four times normal. The thermoplastic fiber can be heat-set to reduce shrinkage. When used in

65/35 blends with wool or cotton, it has a very high crease resistance. A fabric of this construction can be hung up after extreme wrinkling and the wrinkles will "hang out."

Dyeing of these fibers has presented a problem because they will float on water. Thus far the company has been successful in applying light and medium dyestuffs. Some of the dyes used are: disperse, azoic, vat esters, vat, sulfur and mordant dyes. None have produced shades that are fast to all of the standards for a good dye.

Polypropylene can be colored and delustered by incorporation of pigments in the melt during the spinning process. This operation is hindered by the tremendous heat necessary to melt the materials. Much color screening is also necessary in this process.

Printing is another field where success has been achieved with these fibers.

Sizing of the fibers is a sticky problem because of their properties.

One of the most promising fields for the polypropylene fiber is in the making of carpets. Its high strength, abrasion resistance and nonabsorption of moisture make it ideal for carpets. A 100% Prolene carpet, like nylon, has proven that it is almost indestructible as far as wear is concerned.

Effect Of Fiber Tension In The Resin Treatment Of Cottons

By **L. REBENFELD**
Associate Research Director, T.R.I.

THE experiments were designed to show differential response effects to a resin treatment for four different cottons. The fibers were given a bulk chloroform extraction to remove surface waxes and were examined under the following conditions: control, no treatment; blank, distilled water containing .05% cationic wetting agent; blank, .6% $MgCl_2 \cdot 6H_2O$ and .05% cationic wetting agent; and DMEU, 7.3% dimethylol ethyleneurea, .6% $MgCl_2 \cdot 6H_2O$ and .05% cationic wetting agent.

The results of these tests are divided into four categories—fiber strength, extensibility, stiffness and resilience.

The blank tests had no effect on the average single fiber breaking tenacity for the four cottons and there was no loss due to mechanical processing in the yarns. However, the DMEU treatment reduced the breaking strength of a single fiber at zero tension by 50%. When the tension was increased to approximately 420 mg., the DMEU treatment diminished the magnitude of the fiber strength loss which normally accompanies a resin treatment.

Fiber extensibility was not affected by the blank tests either. However, DMEU treatments on both fibers and yarns caused a significant decrease in extensibility. It was found that fibers from resin-treated yarns behave as if they are under a relatively high tensile stress.

Fiber stiffness was substantially increased by both of the blank tests performed. Single fibers treated with DMEU at zero tension showed no change in their elastic modulus, but at 100 mg. tensile load, the treated fibers showed a significant increase in elastic modulus over the control-untreated fibers as well as the blank tests. Extremely stiff fibers are obtained when the tension is increased to an extreme.

Single fiber DMEU treatments under all tension conditions increased fiber resilience above the control value and that of

the blank tests, and fibers removed from DMEU-treated yarns showed a marked increase in fiber resilience. This observation concluded that fibers in a yarn structure are under a considerable tension stress. The component fibers in a DMEU-treated yarn behave in much the same manner as the individual fibers do.

These results indicate the extreme importance of fibrillar orientation in cotton fibers. This morphological structure characteristic exerts a significant effect not only upon fiber mechanical properties and receptivity to identical chemical treatments but also upon the manner in which a given cotton responds to variations in external parameters such as fiber tension during DMEU treatments.

Some New Interpretations Of The Tire Cord Fatigue Phenomenon

By **W. G. KLEIN**
Fabric Research Laboratories

TESTS on both nylon and Tyrex tire cords used in tires for a New York City taxi fleet showed that both cords maintained a high percentage of their strength after 100,000 miles of service.

The conclusion from this test was that cord fatigue was not a factor in failures, but that lack of cord adhesion was generally responsible.

The results of the New York tests were made public in early 1960. In another series of tests, the Nevada tests, standard model 6.70x15 tubeless tires were driven up to 15,000 miles at an average speed of 70 m.p.h. at extremely low inflation (18 p.s.i. compared with the manufacturer's recommended 28 p.s.i.) and weighted heavily at 1,172 pounds per tire.

Three types of tires were used: nylon 840/2, Tyrex 1650/2 and a German viscose 1650/2. The German tire was chosen because it used an isocyanate cord adhesive.

The tests were carefully controlled and tires were removed at random for laboratory dissection and study after 1,000; 3,000; 9,000; and 15,000 miles. The results of these tests: during the entire 15,000 miles, no tire failed due to cord failure; rubber tread was adequate after 9,000 miles but tires were essentially bald after 15,000 miles; and nylon retained 85% of its original strength, Tyrex 82% and the German viscose 74% after 15,000 miles.

Most of the losses that occurred, did so in the first 3,000 miles of the tests.

On the whole, cord strengths corresponded to those found in the taxi tests, except that the major portion of strength loss was in the first 3,000 miles in the Nevada test as opposed to 15,000 miles in the New York test.

It was not possible to determine any advantage for the isocyanate adhesive, although it was discovered after tire dissection that cords so treated were more uniformly coated with rubber than were the nylon and Tyrex. This may have some significance at higher mileages.

The upper sidewall region was found to be the weakest in the Nevada test while the lower sidewall, or flex region was the weakest in the New York test. This was explained by the difference in inflation levels and speeds.

Laboratory tests run on the tire cords substantiated the road tests in that there was no considerable loss of strength from cord fatigue. They pointed up the fact that, again, adhesion breakdown was the main villain in tire cord failure.

Front roll laps? Uneven yarn? *Your Armstrong man can help minimize both*

Each fiber and blend presents different spinning problems—problems that are not the same on every drafting system. That's why there is no universal combination of cots and aprons that will work equally well on every frame and fiber.

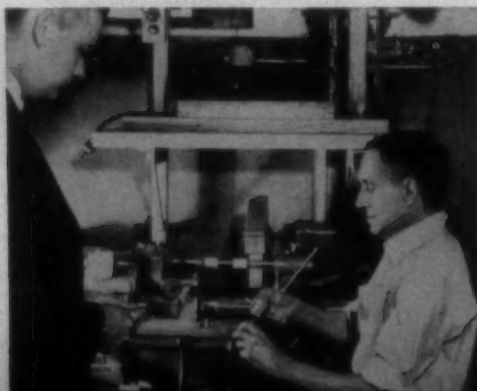
Because roll coverings and aprons are so important to yarn quality, they should be selected in the light of actual operating conditions. In this important selection job, your Armstrong man can make dependable suggestions. Whether your difficulty is yarn irregularity, excessive eyebrowing, or front-roll laps, he can suggest an Accotex material that will correct or minimize the trouble.

Your Armstrong man is a good source of ideas and help, and he has a real interest in how Accotex products work for you. Here, for example, you see W. A. Simmons working with personnel of Monroe Cotton Mills, Monroe, Georgia. Be sure to call *your* Armstrong man any time you have a roll covering or apron problem. Or write to Armstrong Cork Company, Industrial Division, 6505 Davis Avenue, Lancaster, Pa.

J. D. Peters, right, Overseer of Carding, and W. A. Simmons check performance of Accotex NC-762 anti-static cots on roving frame.



R. L. Brooks, right, discusses buffing problems with W. A. Simmons in the roll shop. An Armstrong Model "J" buffing machine is shown.



J. D. Peters and Armstrong representative Bill Simmons look over performance of drawing frame. Accotex materials are used on clearers.





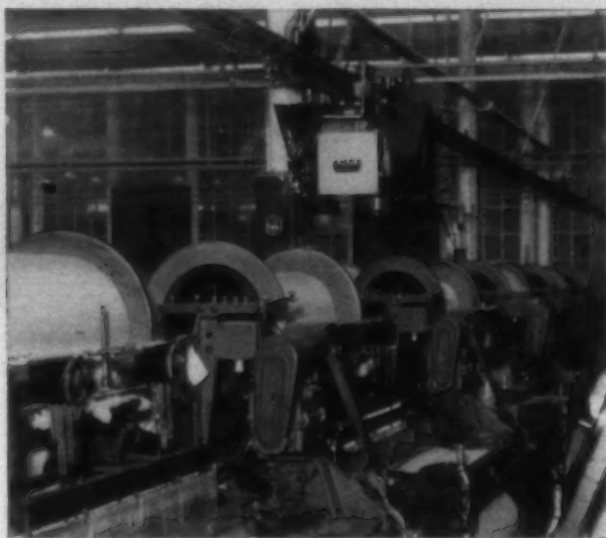
Rodney Ratcliff, right, Spinning Room Overseer for the Monroe Cotton Mills, Monroe, Georgia, inspects yarn quality with Armstrong representative, W. A. Simmons. The frame has Accotex NO-728 front line cots, NC-729 back line cots, and Accotex NO-7075 aprons.

Armstrong ACCOTEX COTS AND APRONS

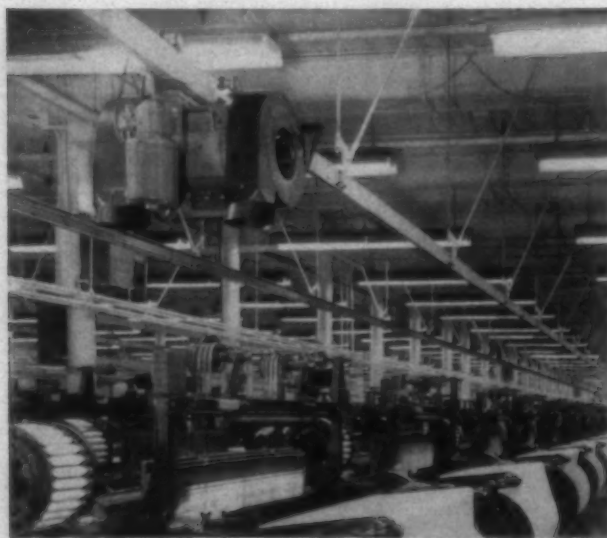
4 leading textile mills keep work areas clean automatically with Amco equipment



ALICE MANUFACTURING makes fine broadcloth in its Foster plant. Ceilings, walls, beams, pipes in card rooms are kept free from fly and lint with Amco Ceiling Cleaners. Result: fewer production interruptions for manual cleaning . . . and better quality.



CANNON MILLS, Kannapolis, N. C. plant produces high-quality terry cloth on looms equipped with Unifil loom winders. This fabric maker uses Amco Heliclone® Loom Cleaners for automatic, continuous cleaning. Result: greatly improved weave room cleanliness.



MAYFAIR MILLS, Spartanburg, S. C., relies on Amco Heliclone Loom Cleaners in print cloth weave rooms. Amco Cleaners drastically reduce manual cleaning costs . . . step up production . . . improve fabric quality by preventing waste accumulation.



PALMETTO WORSTED, Laurens, S. C. uses both Amco Heliclone Cleaners and Amco Ceiling Cleaners in its worsted spinning operation. Amco equipment prevents waste, lint and fly accumulations . . . boosts production and helps maintain quality.

Learn how Amco automatic cleaning equipment can help *your* mill. See your nearest Amco representative.

AMCO

SINCE 1888

Air Conditioning Equipment — Textile Specialties

American Moistening Company, Cleveland, North Carolina Branches: Atlanta, Georgia, Providence, Rhode Island, Toronto, Ontario.

Do You Have What It Takes To Be A Supervisor?

A SUPERVISOR IS MANY THINGS BUT TO MANAGEMENT
HE IS FIRST OF ALL THE MAN THAT GETS THINGS DONE

PART 1

By WILMER WESTBROOK

WHAT is a supervisor? In days gone by a textile mill supervisor was literally the biggest man in the plant. The man who could beat the stuffings out of any and all comers, or at least scare the devil out of them. He was the BOSS, the giver of orders who demanded unquestioned obedience. Those days are gone, some will add with a sigh of remembrance, "thank goodness."

Today the supervisor is a leader, not a driver. He must bring to his job a number of skills, abilities and talents. This change has been brought about by a number of forces. Today's worker is better educated. He is more independent and thinks for himself.

Demands in the area of quality mean that a manufacturer can not depend on employees who do only what they are forced to do. He must have workers who will do a little bit more, both quantity and quality-wise, and do it on their own initiative.

Various groups interested in the well-being of the laboring man have elevated the worker to a more dignified plane. As a result the modern worker reserves the right to question authority that is improperly used.

Management has learned also that incentives, a man-to-man approach, and even employee participation in the formulation of company policies gets better results than force, threats and oppressive supervision.

As a result of these and other factors, supervisors have become better trained in human relations, job methods, and other related skills.

From the management standpoint the answer to what is a good supervisor is simple: One who gets results.

However, to get the job done, and keep getting it done, requires many skills. First of all a supervisor must know the job, he must have the ability to get along with people, he must be able to make decisions and he must be imbued with personal drive and ambition.

If there is one single thing that can make or break a supervisor it is his personality. Encyclopedic knowledge, highly developed skill and all other qualities will not make a man a good supervisor if he is unable to sell himself to management and his subordinates.

Now, this doesn't mean the supervisor has to be a scintillating wit. An oomph man dripping with magnetism. But he should be sincere, consistent, and have the force of character necessary to inspire others. Being a good talker helps but is not essential. It is more important to say what you mean and mean what you say.

Giving orders is only a part of the supervisor's job, however. In addition to being an executive he is a manager, a teacher, a

diplomat, a Father Confessor, an organizer, safety engineer, an inspector, a recorder and last, but not least, he is a human being.

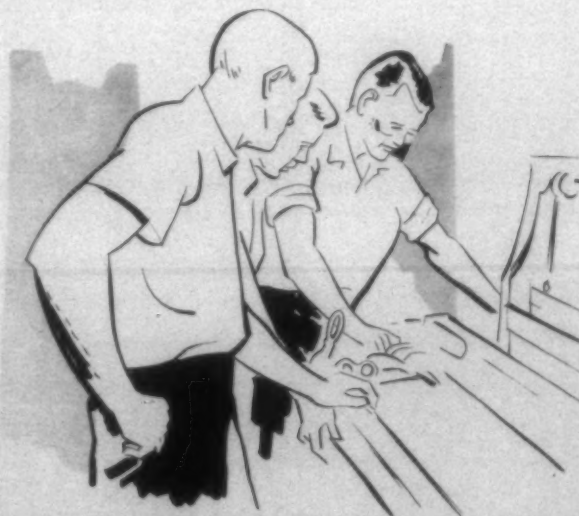
As a manager the supervisor must plan, lay out jobs and place workers where their skills will be used to the greatest advantage.

The supervisor's teaching tasks are never done. He must constantly train new employees for replacement purposes, teach older employees new skills, methods, and techniques, and direct employees in learning the job ahead so that they will be ready for promotion.

It is important that the supervisor be diplomatic in his relations with employees. He can't do this if he is disagreeable, opinionated, argumentative or overbearing. To get along with both superior and subordinate and still accomplish his purpose, a supervisor must use patience and tact, and be willing to compromise or make concessions.

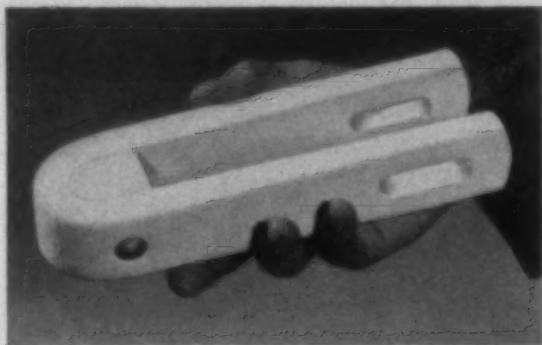
The supervisor must take time to listen. Employees will bring him their troubles and he must hear them out. Most of these problems are of a minor nature and can be easily remedied. In fact, quite a number of them will be imaginary problems that can be solved by the mere act of listening to the person get it off his chest. But whether the problem is big or little, whether it concerns the job or the employee's personal life, the supervisor will get all the facts and then give advice or take action as needed.

Efficiency in a mill cannot be had without organization and the supervisor is called upon to be the organizer. He must be able to co-ordinate all parts of his department into a smooth-running machine. Each employee must know his specific duties—each machine must work at peak efficiency. All this



Much of the supervisor's time is spent in training both new and older employees.

HARRIS HEAVY DUTY LUG STRAPS AND HOLD UPS



All Canvas Lug Straps and Lug Strap Hold Ups are made of the best quality materials we can buy, put together with the best workmanship. Lug Straps are available with or without plugs in 1" increments from 8 to 18 inch lengths and in 1½ and 2 inch widths. Partial or full leather lining available to suit requirements.

RICE DOBBY CHAIN COMPANY MILLBURY, MASSACHUSETTS

Southern Representatives

Holt Associates, Inc.

P. O. Drawer 1319

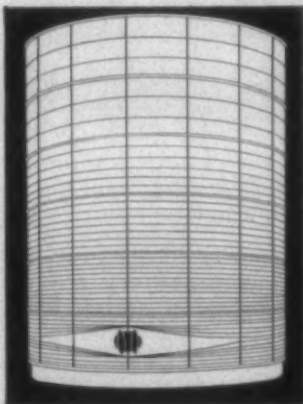
1910 Wendover Avenue

Greensboro, N. C.

KABE-O-RAP TANKS

REINFORCED PLASTIC TANKS FOR INDUSTRY

- Highest Safety Factor in the Industry
- Completely Weather-proof
- No Painting - Maintenance Eliminated
- Excellent Chemical Resistance
- No Product Contamination
- No Limit to Size
- Easily Erected
- Strong, yet Light in Weight
- Easy to Keep Clean



Write for further information and literature.

STEEL AND TANK SERVICE COMPANY

CHARLOTTE, N. C. • NASHVILLE, TENN.



The supervisor must be an accurate record keeper so that he knows both where he has been and where he is going.

requires organization so that each employee and machine works with a minimum of direct supervision.

As a safety engineer, the supervisor must constantly look for safer methods, analyze the cause of accidents, stress safety in talks and instructions to employees, eliminate safety hazards, and discipline workers who are guilty of unsafe practices.

The supervisor's "inspector" duties include the constant inspection of machines, materials, methods and the finished product—as well as the work in process.

It is an obvious, but sometimes overlooked fact, that if you want to know where you have been and where you are going, some records must be kept. The supervisor must keep records on production, quality costs, maintenance and personnel to help him plot a course and plan for the future.

Having said all this let it now be said that the supervisor is a human being. He should not be placed on a pedestal either by himself or those working under him. While striving to set a good example he must remember (and his subordinates must remember) that he is subject to the weaknesses, failings and mistakes of all other human beings. The supervisor should not set himself above, nor talk down to his subordinates on the job.

While outstanding qualities are called for, a supervisor does not have to be a superman. Many of the skills he needs can be obtained through experience on the job. In fact, this is one job in which a person must grow. Regardless of the degree of learning, experience and ability, the supervisor learns most by supervising.

Next month we will consider some of the qualities management looks for in choosing workers for supervisory posts—the qualities that can mean the difference between success and failure.

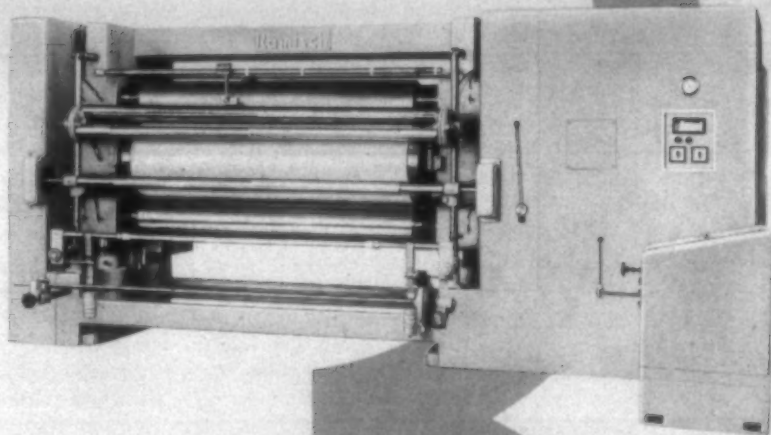
Textile Workers' Average Earnings Up In February As Compared With January

U. S. textile workers received average weekly earnings of \$62.59 in February, according to the Department of Labor. This was an increase of \$1.03 from the average earnings in January, but a drop of \$1.57 from February 1960.

The workers averaged 38.4 hours a week as compared with 38.0 in January and 40.1 in February of last year. Production worker employment rose by 900 during the month—from 808,000 to 808,900.

TRIPLE PURPOSE RAMISCH TRICOT SCHREINER CALENDER

**THIS
VERSATILE MACHINE
REQUIRES
ONLY 30 MINUTES
TO CHANGE OVER
FROM—**



- Schreinerling
- Flat Embossing
- Relief Embossing

We have added this renowned equipment to our line because we believe it is unexcelled in construction, performance and range. Its multi-functional usefulness permits mill-owners a variety of finishes plus substantial savings. Briefly, some of its unique features are:

The upper bowl for each of the various processes can be readily removed owing to a special roller coupling device. You need no more than 30 minutes to detach the bowl from the calender frame and exchange it for another, without disturbing drive or drive gear.

Dr. Ramisch & Co. in West Germany are one of the most experienced firms in the calender line. Its many products cover the entire range and needs of the textile industry.

Reiner also offers machines for handling woven goods, for laboratory use, and special effects.

***Complete descriptive literature, Schreinerling
and other sample swatches upon request.***

ROBERT REINER, INCORPORATED

Telephone: UNion 7-0502—From New York City call LOngacre 4-6882.

WEEHAWKEN

(Only 10 minutes from Times Square by direct bus)

NEW JERSEY

AN HONORED NAME IN TEXTILE MACHINES SINCE 1903.

What's So Special About Nylon Polymer Belting?

THE POPULARITY OF THIS TYPE BELTING HAS ZOOMED IN THE TEXTILE INDUSTRY IN THE LAST FEW YEARS

NYLON polymer core belting has been going great guns in the textile industry since its introduction in this country some six years ago.

Why?

What's so special about this particular belting that has enabled it to grab off such a significant share of the textile belting market?

Being both curious and interested, we decided to look further into it. First we went to the company that introduced the belting in the U. S.—Extremultus Inc., headquartered in New York City. We also checked with a couple of mills about how it's standing up under service. Here's what we found.

Question: What is the origin of nylon polymer core belts?

Answer: The belt was originally developed in Germany during World War II and introduced in the U. S. approximately six years ago by Extremultus.

Question: How is the belt constructed? What component parts does it have?

Answer: The key to the development of the polymer core belt was the production of modified, oriented nylon of extraordinary flexibility with high elasticity and tensile strength. Even the most severe shock loads have produced no permanent

stretch in the belts. Incorporated with this advancement was the successful development of a controlled process for permanently bonding specially chrome-tanned leather to the nylon polymers. This union resulted in the addition of a very high friction surface to the strong, elastic core and gave a coefficient of friction of .7 to .8.

Since the nylon core was designed to carry the load, the leather friction surface can be tanned without compromise to produce a maximum friction coefficient without regard to the strength or stretch properties of the leather.

Question: Since the friction is so high, what effect does oil have on the belt?

Answer: Oil has very little effect on the belt. The high degree of friction and the capacity to absorb oil work together to prevent an efficiency loss.

Question: What is chrome-tanned leather?

Answer: Chrome-tanning is a mineral tanning process designed to produce the astringent qualities needed in this type leather.

Question: How was the Extremultus nylon polymer core belt first introduced in the U. S.?

Answer: Initial installations of the belts in the U. S. were on fixed center-cone pulley drives varying from 50 to 750 h.p. in paper mills. On these installations, the freedom from stretch eliminated belt take-up maintenance. Other advantages derived included the reduction of belt widths from one-third to one-tenth the original widths used on these drives and the improvement of speed regulation. These characteristics have produced the same results on roving frame drives, picker drives, autoleveller drives and other cone drives in the textile industry, although at much lower horsepower.

Question: Where were these belts first applied in the textile industry and what were the results?

Answer: One of the earliest applications of Extremultus belts in the textile industry was on twister drives. The belts gave absolutely constant spindle speeds even though the spindles had only a line contact with them. The increase in friction of the nylon polymer core belt was so high that the spindle pressures were backed off to approximately one-fifth their former value, while maintaining constant spindle speeds. They did not slip even when saturated with oil and the reduced spindle pressures greatly increased bearing life.

Question: On what other applications in the textile industry have these belts been effective?

Answer: They have been effective on the drives just mentioned, giving narrower widths, which in turn, reduce edge wear that is common on cone drives.

The belts have been used on cotton cards with great efficiency. Here the lickering, doffer and flat drives with fixed centers utilize smaller belts resulting in lower maintenance costs and the production of more uniform slivers.



Endless nylon polymer core belt is used to drive this stack of drying cans at the Rock Hill (S. C.) Printing & Finishing Co.

To maintain constant roll speeds, assure web control and increase yarn uniformity, woolen cards have also employed the belt.

Coning machines or winders use the belt to produce smooth, constant spindle speeds and uniform, tight packages.

Looms that use these belt drives are afforded softer, more positive starts and stops and a reduction of maintenance costs and set marks.

Extremultus has also found successful application on stacks of drying cans.

Question: What specific forms does the belt take?

Answer: Nylon polymer core belts are used by the mills in a number of weights with a core thickness varying from .01 to .256 inches. Widths up to 48 inches are available in any length. The special chrome-tanned leather can be supplied on one or both sides of the belt. For surfaces where high friction is not a necessity, mills can use belting with a polyurethane friction surface on one or both sides.

Question: Can the belts be supplied endless?

Answer: Yes. There are already many standard sizes of endless belts such as lickerin, doffer, flat, roving cone, evenor cone and other textile belts available from distributors' stocks. Other non-standard belts for any given application can be supplied endless according to the particular drive specifications.

Question: Can the belts be spliced in the field?

Answer: Yes. The belts can be quickly and easily spliced using simple equipment, a considerable advantage in mounting larger belts without disassembling equipment or disturbing bearing alignment.

Do The Mills Concur?

The preceding comments came from Extremultus Inc. To emphasize their confidence, they offered to put us in touch with any of the mills they had sold belting. We picked John A. Aycock, plant engineer for Rock Hill (S. C.) Printing & Finishing Co., as our first "character witness," and his first comment was:

"We believe nylon polymer belt drives are ideal for stack can drying ranges." He expressed complete satisfaction with the first installation that was made at his plant over two years ago and volunteered to review the history of stack can drying and why he had chosen the nylon polymer over conventional belting.

He said that for a great number of years, it was the practice to drive these cylinders with a train of gears attached to the journals and adjacent to the cylinders on which drying was accomplished. During this time, low pressure steam was generally used and speeds were relatively low.

When stainless steel became economically available, the copper cylinders were replaced, resulting in steam pressures being increased up to ten times. At the same time rotary unions and anti-friction bearings contributed towards increasing drying speeds two to three times.

This increased speed created lubrication problems and splatter from the gears, bearings and rotary unions. The oil splatter often damaged the goods, causing defects which could not be removed in later processes.

Roller chain drives were tried, but if the chains and sprockets were properly lubricated, the splatter of the lubricant was worse than from the gear drive.

Seven to ten years ago, V-belts were improved and long belts were made available that would drive eight to ten cylin-

ders in one stack. This proved effective in eliminating oil spotting but had the added problem of stretch.

Heavy shock loads are placed on drives of this type and unless the V-belts are tensioned properly by a spring idler pulley, they tend to become slack and sometimes jump from the pulleys and break. The company has found no way to couple or repair these belts as yet, said Aycock. As a result, replacement occurs often, resulting in high maintenance costs and downtime.

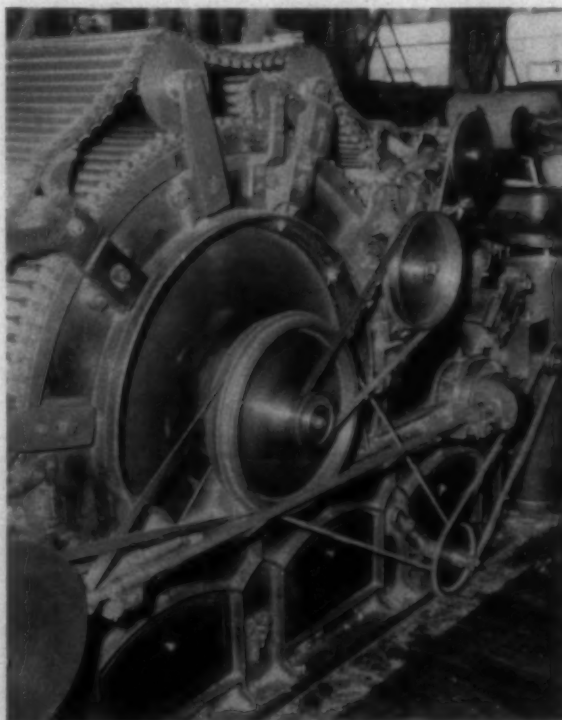
Then came the first installation of nylon polymer core belting. The trial run consisted of four belts two inches wide on a 2½-inch face-width crown pulley. After two years of operation, the belts have required no further adjustment, no repairs. Three additional ranges have subsequently been equipped, and here, too, there have been no signs of appreciable wear. During the entire period only one belt has been damaged, and that through the carelessness of an operator.

What About Other Applications?

How is the belting holding up on other applications? For an indication on this, we contacted one of the largest users of the belting in the textile industry—Highland Cotton Mills, High Point, N. C. The mill has some 314 of the belts in operation, some of which have been running for more than two years.

Zack Childers, Highland's plant engineer, is using the belting on applications that range from cone drives on roving frames to fan drives on pickers. In the mill's opening room he has replaced four-inch, two-ply leather belting on his beater drives with 1½-inch nylon polymer belting. The flexibility of the latter allows the belt to slip off the pulley in case of a choke-up. Leather belting, less flexible, slips and burns on a choke-up but does not slip off the pulley.

Nylon polymer drives are also used on picker fan belts.



Extremultus belts are used to drive the lickerin and flats on this cotton card at the Highland Cotton Mills in High Point, N. C.

Conventional belts had a tendency to stretch in this application. As a result, there was loss of fan speed, producing uneven laps. The no-stretch characteristic of polymer belting definitely contributes to more even laps.

Highland makes widest use of the belting in its card room. Here some 250 doffer and lickerin drives have been equipped with it. Results: (1) a smaller belt is being used; (2) the cards are delivering more even sliver; and (3) picker laps run out even, minimizing picker lap waste.

The mill has had one drive failure in the card room in the two years it has been using the polymer core belting. A fault

in the belting? No. A brush used to clean lint from the belt somehow got caught between the belt and the pulley.

Other Highland applications include fan belt drives on combers. Conventional fabric drives, rubber impregnated, were previously causing bad start-ups by slipping and stretching. The nylon polymer core belt doesn't slip.

On its roving frames, the mill has replaced three-inch, two-ply conventional belting on the five h.p. main drive with 1½-inch nylon polymer. Again, and with no failures in two years, the nylon polymer core drives are producing tighter and more uniform packages as a result of more even drive tension.

Research Is More Than A Lab Fitted With Men And Equipment; It's A Key To Future Profits

TO BE SUCCESSFUL IT SHOULD BE ON EQUAL FOOTING WITH OTHER OPERATING DEPARTMENTS IN YOUR MILL

By **M. EARL HEARD***
Vice-President, Research
West Point Mfg. Co.
West Point, Ga.



RESearch results cannot be obtained by the mere hiring of researchers and the building of a laboratory, but will come from a state of mind on the part of management. No research staff can do its best work unless it is kept continually informed of company policies for expansion and growth. Management must help research by telling it not only in what direction it is going, but how far to go and in how much time. Scientific research, applied research and invention working together produce our technical progress. Good research management endeavors to keep these three parts of industrial research well balanced and aimed in the direction of the company's objectives.

There is a rather general widespread illusion that research is an activity for which only major corporations are equipped. This is certainly not the case. There is an old age tendency of wealth to think of itself in terms of exaggerated importance. It can be of great and strategic assistance but it is only a means to an end.

I like the following quotation: "There is a common fallacy that money can create ideas, and that a great deal of money can create better ideas."

It takes more than money. It takes men; imaginative, enthusiastic men with fertile ideas related to the future. For them there is no substitute. Without them money will produce nothing but motion and futility. No corporation, no matter how big, has a monopoly on such men.

The research and development division of a business is a major function and must be considered so by management. It should be on an equal footing in the corporate structure with other operating departments and should report directly to the president. It cannot flourish in a climate of dependency.

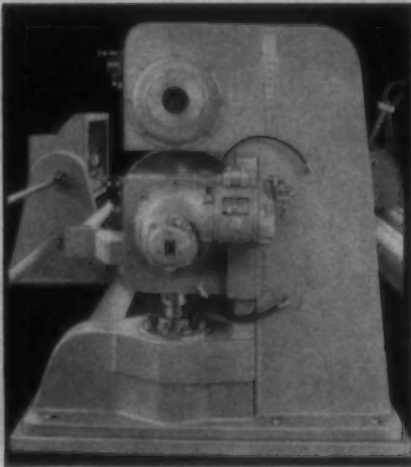
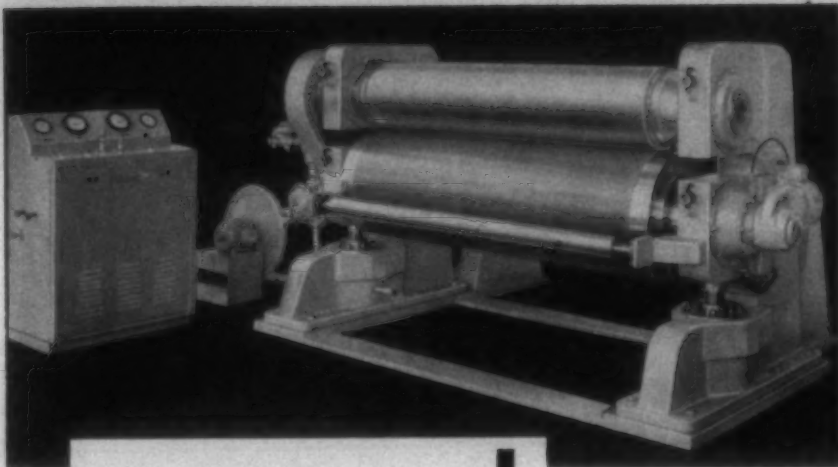
The research director's job is one of the most important of all the technical positions in the company and without danger of over emphasis it is one of the most difficult in the entire executive family when the long term success of the company is considered.

No matter how capable a group of scientists and engineers a research director might bring together as a team, unless the morale is high and he can provide stimulating leadership, guidance and enthusiasm it will not be a successful operation. In the operation of a research department, morale is probably more important than in any other division of the company.

Furthermore, a research director has a co-ordinating job of almost overwhelming proportions. Whatever the size of his group he has the job of welding the various sections into a smooth running whole and the building of a team.

Second, and equally important, is the establishment of friendly, co-operative relations with all other departments of the company. This simply means that one of the biggest jobs research has to tackle is to continually sell itself to its own company. In working with and through the regular company organization, whether it be sales or production, a research man meets his first test in the field of human relations. For this reason, many successful research men spend as much time building the human bridges as they do in developing the technical answer to a problem. Thus, this problem of people and their relationship to industrial activities is a major factor of success or failure. These bridges are built gradually by continual co-operation, strengthened through personal contact and maintained by eternal vigilance. Failure to develop a sympathetic understanding and a willingness to try the ideas and developments that come out of research certainly spells trouble.

*Abstracted from a paper delivered by Mr. Heard before the Charlotte Textile Club, March 13, 1961.

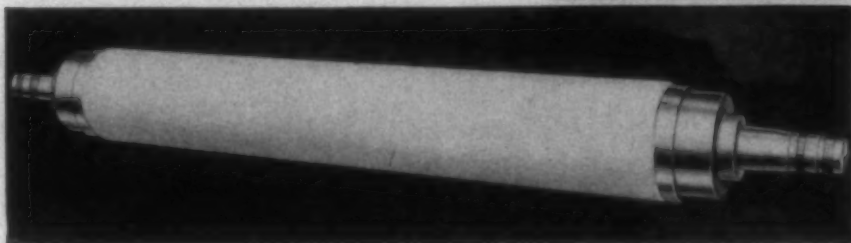
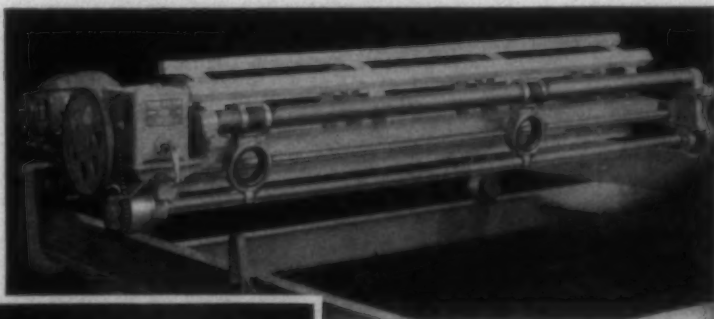


WORLD- WIDE ACCEPTANCE

Perkins Calenders, individually designed and custom-made, have long been known for their high factor of safety, simplicity of design and long record of service.

The 2-Roll 60-Ton Hydraulic Schreiner Calender is equipped with self aligning bearings and the Perkins patented bottom roll drive to keep both rolls rotating when skipping seams. The hydraulic unit enables individual pressure control of each side of the calender.

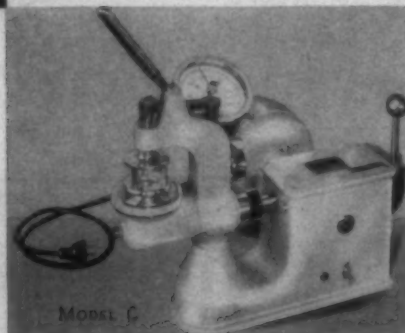
Perkins Bin Pilers are supplied with one, two, three or four traveling pot-eyes, and in widths up to 120". A real labor-saving unit—over 1,000 installed and operating.



When you specify Perkins Rolls, you enlist in your service more than the product of good equipment. You receive a plus factor — the outstanding ability of men whose skill and ingenuity has made Perkins the world leader in the roll industry.

PERKINS MULLEN TESTER

Mullen Testers are absolutely accurate, uniform and positive for ascertaining exact bursting strength of textiles.



Calender Rolls • Schreiner, Chasing, Rolling, Silk Finishing, and Embossing Calenders • Seam and Slub Detectors • Cloth Pilers • Automatic Winders • Hydraulic Power Units • Mullen Testers.

B. F. PERKINS & SON, INC.

TEXTILE
FINISHING
MACHINERY

HOLYOKE • MASSACHUSETTS

Laying Out The Warping And Slashing For Our Warp Stripe Chambray Fabric

HERE'S HOW TO FIGURE THE WARPING AND SLASHING
LAY-OUT ON THE FABRIC DISCUSSED LAST MONTH

By E. B. BERRY

IN last month's issue a striped Chambray fabric was reviewed and the pattern was "centered" in the cloth. This makes for a more attractive fabric at the selvages. Also, centering establishes the exact number of ends of each color. With this information, the details of making up the section beams and loom beams can be worked out. This month we are considering the warping and slashing lay-out for the same striped Chambray.

Section beams vary quite a bit in size. For medium width fabrics, the distance between flanges has been established at approximately 54". Wide fabrics, such as sheets, bedspreads, blankets, etc., require wide loom beams, and therefore, the section beams should also be widened. Here the width may go up to 100".

Both diameter of core and diameter of flanges will vary too. For short sample work, the core may be 8" in diameter with an 18" flange. In regular full production work the object is to get as much yarn as practical on the section beam, therefore the core may go to 10" diameter and the flanges up to 32" diameter.

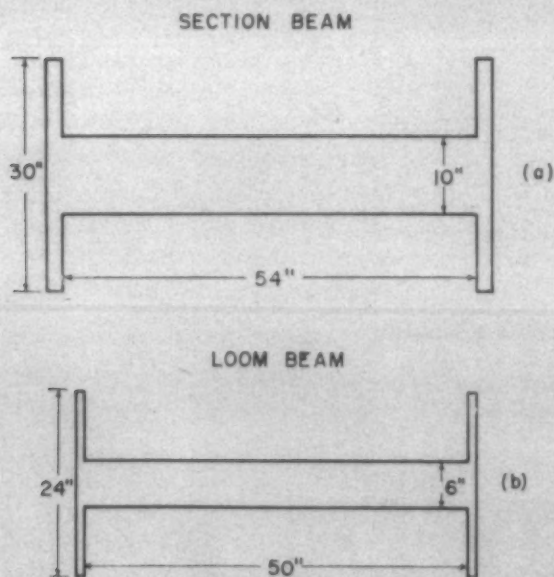


Fig. 1

Too large a flange presents a problem of producing a good solid beam, that is not spongy. The yarn put on at the warper must come off evenly and without tangling at the slasher.

Different materials are used to make section beams. A wooden barrel may be used with wooden heads or flanges. Cast iron heads are sometimes used with the wooden barrel. Aluminum and magnesium are sometimes used for both barrel and flanges. The latter two materials are commonly found in mills running filament yarns.

Regardless of the material used to make the section beams, it is essential to know the amount of yarn a given size beam will hold. The mill that is going to weave this stripe Chambray fabric has section beams as shown in Fig. 1a. It has been found from mill tests that cotton yarns will occupy about 56 cubic inches per pound of yarn when put on the section beams. This, of course, is unsized yarn.

The formula for determining the volume of any cylinder is $V = \pi R^2 h$. Since the barrel is solid, it must be subtracted from the total volume to give the cubic content available for the yarn. Rather than go through two calculations and subtract the volume of the core from the total volume, the diameter squared of the core may be subtracted from the diameter squared of the flanges.

$$\begin{aligned} V &= \pi R^2 h \\ &= \pi (R^2 - r^2) h \\ &= \pi (15^2 - 5^2) 54 \\ &= \pi (225 - 25) 54 \\ &= \pi (200) 54 \\ V &= 33,929.28 \text{ cubic inches} \end{aligned}$$

This is the cubic content of the section beam that is available to hold yarn. With 56 cubic inches for one pound, the calculation becomes:

$$\frac{33,929.28 \text{ cu. in.}}{56 \text{ cu. in./lb.}} = 605.88 \text{ lbs. of raw or unsized yarn}$$

To convert this poundage into yards on the section beam, the ends per beam and the yarn number must be known. This will be discussed later.

Loom beams, too, vary in size. The diameter of the barrel and diameter of the flanges will be different depending upon local mill conditions. Beams used to weave samples will be smaller than beams used in full production.

The biggest variable in loom beams is the width between flanges. From a production standpoint, it is desirable to have the flanges as wide apart as possible, for this will allow greater yardage on the loom beam thereby reducing tying-in costs.

However, a beam with 60" between flanges in the back of a loom which is weaving a 40" fabric, would mean 10" difference on each side between the edge of the beam and selvage. This is a very sharp angle and will cause tension trouble at the edges of the fabric. A good rule of thumb is to have the beam no wider than the reed width + 10". This is a space of 5" on each side from the selvage to the beam flange. From a weaving standpoint, it is good to keep the width between beam flanges the same as the reed width. The 10" over the reed width will still allow normal weaving and give a greater capacity for holding yarn.

Some beams are made with the flanges stationary, that is, they cannot be moved in or out. For mills running the same width fabric year after year, this is satisfactory. Beams may be purchased with movable flanges, that may be adjusted in or out when weaving different width fabrics. A mill making highly styled fancy goods may buy such beams. Also they are desirable in sample work when a great variety of different width fabrics are woven.

This Chambray fabric is to be woven from loom beams as seen in Fig. 1b. The cubic content of this beam is determined the same way as the section beam.

$$\begin{aligned} V &= \pi R^2 h \\ &= \pi (R^2 - r^2) \\ &= \pi (12^2 - 3^2) 50 \\ &= \pi (144 - 9) 50 \\ &= \pi (125) 50 \\ V &= 21,205.8 \text{ cubic inches} \end{aligned}$$

The yarn on the loom beam here is sized, so the constant of 56 cubic inches per pound can no longer be applied. What is the corresponding figure for sized yarn?

A 40/1 cotton yarn before sizing has $840 \times 40 = 33,600$ yards per pound. After sizing it is still called a 40/1 but has fewer yards per pound because of the added weight of the size. This means that on the loom beam a pound of raw yarn will occupy more space because the size occupies space, and the yarn number is not adjusted to allow for the extra weight of the size.

The percentage of size added to warp yarn varies considerably from mill to mill and from fabric to fabric. The cubic inches per pound of yarn on the loom beam will therefore vary. A reasonable average has been established at 60 cubic inches per pound. This figure though, is not as reliable as the 56 cubic inches per pound of unsized yarn on the section beam.

This loom beam has 21,205.8 cubic inches available for yarn. Using the 60 cubic inches per pound constant, the calculation becomes:

$$\frac{21,205.8 \text{ cubic inches}}{60 \text{ cubic inches/lb.}} = 353.43 \text{ lbs. of sized yarn}$$

The poundage calculation for a section beam or loom beam is merely a means to an end. The end is the yardage that will fill the beam with the yarn number required.

When making up section beams, there is a maximum and minimum number of ends that can be run. The maximum figure is the number of running ends in the creel behind the warper. Normally this figure will be from 460 to 700 ends. Most creels are purchased in sections of 10 running ends (20 spindles of the magazine type). In the "V" type creel, there are generally 10 running ends on each side, making the running spindle in multiples of 20. It is possible though, if the mill conditions warrant, to have an odd number of sections on one side of the "V" and an even number of sections on the other side of the "V".

If too few ends of a given yarn number are put on a section beam, a spongy beam will develop. While the beam is being made each end will build up on the beam, and if they are not packed closely, side by side, ridges will be made. After a short yardage is run, the ends will not follow on the ridges and will fall over into the valleys. This makes for a poorly packed beam, and more important, the yarn cannot be unwound when it is put in the beam creel behind the slasher.

Section beams carry a high poundage of yarn. In the illustration above, 605 pounds, and the tare weight of the beam may add several hundred pounds more. In the beam creel, the beams are not driven, but are pulled by the yarn as it goes in the size box. There must be a sufficient number of ends of a given yarn number to pull the beams.

From mill tests it has been found that approximately 300 ends of a 15/1 cotton yarn are needed to pull a full 54" wide section beam. All yarn that is slashed is not 15/1, therefore the ends per section beam must be calculated separately for each yarn number.

The new number of ends will vary in direct proportion to the 300, but the new yarn number will vary as the square root of the 15/1.

The Chambray fabric has a 40/1 warp yarn, therefore, the calculation for the minimum number of ends on a 54" section beam is: the square root of 15 is to 300 as the square root of 40 is to X. This results in:

$$\frac{300 \times 6.33}{3.88} = 489 \text{ ends}$$

The mill that is making this Chambray fabric has a creel capacity of 640 running spindles, therefore, the section beams made must be between 489 and 640 ends with the 40/1 yarn.

The total ends of each color are shown in Fig. 2.

Fig. 2

	Ends Per Repeat	Repeats		Extra	Selv.	Total Ends
White	64	x 12	=	768	+ 16	= 912
Blue	12	x 12	=	144	+ 12	= 156
Grey	200	x 12	=	2,400	+ 156	= 2,556
Red	96	x 12	=	1,152		= 1,152
	372			184		4,776

Blue has only 156 total ends, therefore, these ends must be combined with another color as the minimum for a section beam is 489. With which color should the blue be combined? White has 912 ends, which is too much for one beam and cut it in half (456), is below the minimum. It seems logical therefore that Blue and White should be combined. In what order? If a solid White beam of 500 ends is made, this will leave 412 and when combined with 156 of Blue will make 568 ends on the pattern beam.

Grey has 2,556 ends and if put on four beams, each will have 639 ends. These beams are within the maximum and minimum.

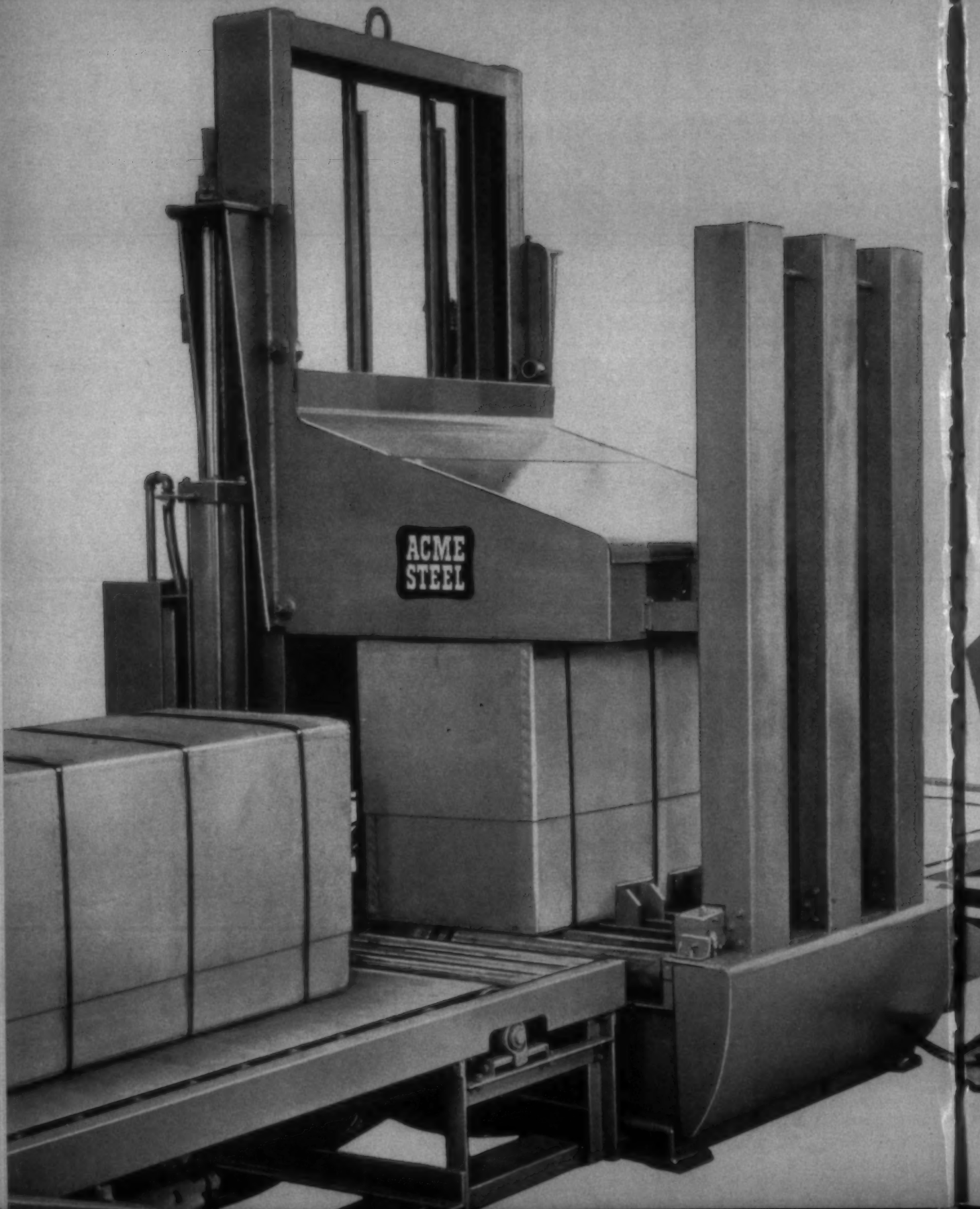
Red has 1,152 ends and if put on two beams, each will have 576 ends. This too is within the maximum and minimum so is readily acceptable.

The number of section beams, and ends of each color are shown as follows:

No. 1 Beam (Pattern)	Blue	= 156
	White	412
No. 2 Beam (White)		500
No. 3-4-5-6 Beam Grey @ 639		2,556
No. 7-8 Beam Red @ 576		1,152
		4,776 total ends

How are these section beams put in the beam creel behind the slasher? Fig. 3 shows the arrangement of eight section beams. The number of each beam refers to the sheet of yarn

CONVEY 'EM ... COMPRESS 'EM ...



STRAP 'EM BY PUSHBUTTON

Four boxes per minute are a
pushover with ACME STEEL'S

NEW F11

Here's the speediest line to the shipping platform any textile packager can have. The new Acme Steel F11 lets you command the *complete* box strapping operation automatically:

CONVEY 'EM into the machine on powered rollers by pushbutton.

COMPRESS 'EM with the exact amount of pressure (up to 10,000 pounds) by another touch of the console.

STRAP 'EM automatically—up to three straps at once. All straps are fed completely around the box, then uniformly tensioned, sealed and cut. Clean, convenient pneumatic power does all the work.

Net results: in one minute you can compress and strap four boxes, apply as many as twelve straps. Each box is secured tight and square for faster, safer handling, more stable stacking. And Acme Steel's "customized" compression allows you to pack in the maximum amount of material without squashing!

The revolutionary F11 strapping mechanism is simplicity itself. It requires no complex (and costly to service) electronic circuits. Simplicity has been achieved to such a degree that the entire mechanism can be replaced with a standby in five minutes!

Have your Acme Idea Man explain in full the newest idea in textile compression strapping. And return the coupon to arrange for a viewing of new movie on the amazing F11 in action.

Put pushbutton console where it's handiest.
Example: operator weighs completed box while F11 automatically straps the next. Small box in machine demonstrates versatility of the F11.



**ACME
STEEL**

**IDEA LEADER IN
STRAPPING**

ACME STEEL COMPANY, Acme Steel Products Division
Dept. TES-51, 135th Street & Perry Avenue, Chicago 27, Illinois

- ☐ Please send detailed information on the New F11.
☐ Contact me to arrange for showing of new F11 movie.

Name _____

Title _____

Firm _____

Address _____

City _____

Zone _____ State _____

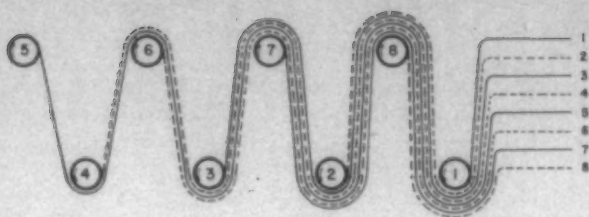


Fig. 3

as it comes up ready to go into the size box. The top sheet is No. 1, and comes from Beam No. 1. Directly under this is Sheet No. 2, and comes from Beam No. 2. Each sheet of yarn in sequence is numbered, from top to bottom, and the beams, where these sheets originate, take their numbers from the corresponding sheet.

Pattern beams are generally hard to lay in the slasher comb and, therefore, should be on the top sheet, from Beam No. 1. Also, the selvage should be split on two beams, No. 1 and No. 2. Both of these conditions have been met in this layout.

What yardage can be put on these section beams? All eight must have the same yardage, so they will run out together. The beam that has the most ends will fill up first, therefore, it will govern the length of the set. The formula for figuring beam weights is:

$$\frac{\text{Ends} \times \text{Yards}}{\text{Count} \times \text{Standard}} = \text{pounds}$$

The only item open in this formula is yards. Rearranging it becomes:

$$\frac{\text{Pounds} \times \text{Count} \times \text{Standard}}{\text{Ends}} = \text{Yards}$$

$$\frac{605 \times 40 \times 840}{639} = 31,812 \text{ Yards}$$

This same principle can be used to calculate the yardage on the loom beam.

$$\frac{353 \times 40 \times 840}{4,776} = 2,483 \text{ Yards}$$

These yardages will theoretically fill the beams. No thought has been given to how many loom beams will come off one set of section beams, and how many cuts of cloth will come off one loom beam. It is fairly obvious that the last loom beam from a set of section beams will not be completely full. It takes just as long to tie-in a loom beam that is only one-fourth full as it does to tie-in a full beam. To reduce costs it is advisable to work with full beams. Also, the last cut of cloth from a loom beam will not be full length. Short lengths of cloth are hard to dispose of and many times must be sold at a reduced figure.

Less than full length cuts are produced all too often in a weaving mill. If a smash occurs after 20 yards of cloth has been woven, the smash is repaired and the loom started again. When this cut gets to the inspection room, the smash is cut out, and two short lengths are made rather than one full cut as was planned. If oil or grease gets on the cloth, it may have to be cut out, leaving two short lengths. Harness skips and other major damages may have to be cut out. Short lengths are made in normal manufacturing, and it may pay to put only full length cuts of yarn on the loom beam.

The customer who is buying this Chambray fabric wants the cloth in 66-yard lengths. With 7% warp contraction, this

figures to $66 \div .93 = 71$ yards of yarn on the loom beam to make the 66 yards of cloth. Carrying this back to the loom beam it figures $2,483 \div 71 = 34.9$ cuts. This is reduced to 34 cuts, to be sure we keep whole cuts on the loom beam. The new yardage on the loom beam will be $34 \times 71 = 2,414$ yards. There is always some waste, due to tying-in, and for this style of goods it is figured at 5 yards. Thus, $2,414 + 5 = 2,419$ yards is the actual length put on the loom beam.

A corresponding calculation may be made for the section beams. 31,812 is the yardage that will theoretically fill the section beam so:

$31,812 \div 2,419 = 13.15$ loom beams from one set of section beams. This is reduced to 13 to keep whole loom beams from the section beams. The new yardage on the section beams will be $2,419 \times 13 = 31,447$ yards.

There is always some waste at the slasher due to laying-in, tailing out, etc., and this is figured at 75 yards. Thus $31,447 + 75 = 31,522$ yards is the actual length put on the section beams.

This gives 13 full and complete loom beams, with 75 yards waste for starting up and ending at the slasher. Each loom beam will have 5 yards waste and will make 34 full cuts of cloth.

Waste must be figured on both types of beams for cost purposes. The section beam will show:

$$\frac{75}{31,522} = .00237 \text{ or } .237\%$$

The loom beams will show:

$$\frac{5}{2,419} = .00206 \text{ or } .206\%$$

Expansion combs are used at the warper and the slasher. The fact that they can be adjusted is a decided advantage. It is possible to expand or contract the entire sheet of yarn to fit exactly between the beam flanges. The description of the warper expansion comb used for this Chambray warp is 640 dents, with adjustment from 30" to 70". The maximum number of dents used is obviously 640, for it is not possible to use more than are in the comb. However, there is a minimum too, for any given width section beam. Suppose the 640 dent reed is extended out to its 70" limit. This means there are $640 \div 70 = 9.2$ dents per inch. Now if the section beam is 54" wide, we must use $54 \times 9.2 = 495$ dents. Any less would not extend out to the 54" needed.

The comb used at the loom beam has its maximum and minimum too. This comb has 850 dents with adjustments from 30" to 65". The maximum is 850 and the minimum is $850 \times \frac{50}{65} = 654$ dents, because the loom beam is only 50" wide.

This set-up makes only one pattern beam which is simple to lay in at the slasher. However, it has a decided disadvantage. When the sheet of yarn comes past the break-rods at the head end of the slasher, Red is spread uniformly across the width of the sheet. Red must be concentrated in its own stripe on the loom beam and there is 2.22" between these stripes, therefore some ends must be spread 1.11". This may give trouble with tension and crossing, as the ends spread this much.

An alternative plan is to make patterns on all the section beams, so that the sheet of yarn as it goes into the slasher will be essentially the pattern required on the loom beam. This is harder to prepare, for eight pattern beams are more difficult to

make than one. In order to keep the difference between the beams to a minimum the first two beams may each be made as follows:

Selv. G W B W G W R W G G W B W G Selv.
32 6 1 6 1 8 3 12 3 5 6 1 6 1 6 32

45 ends × 12 repeats = 540
extra 20
selvage 64
624 total

The remaining six section beams will each be made as follows:

G W G W R W G G W G
11 2 14 3 12 3 2 11 2 11

47 ends × 12 repeats = 564
extra 24
588

The combining of these eight section beams will produce the desired pattern on the loom beam and the correct number of ends.

$$\begin{aligned} 624 \times 2 &= 1,248 \\ 588 \times 6 &= 3,528 \\ \hline &4,776 \end{aligned}$$

How many ends per dent should be placed in the slasher comb? If more than six are used, there is a tendency for the ends to roll and become tangled. Therefore six will be used here.

This gives a slasher comb layout as follows:

10 dents	6W	64W Selv.	
1 dent	4W		
12 dents	2G		
1 dent	6G	78G	
	4G		
1 dent	2W	8W	
2 dents	6W		
1 dent	6B	12B	
1 dent	6W		
1 dent	2W	8W	
	4G		
16 dents	6G	100G	
4 dents	6W	24W	
16 dents	6R	96R	
4 dents	6W	24W	
3 dents	6G		
1 dent	4G	22G	
13 dents	6G	78G	
1 dent	6W	8W	
	2W		
1 dent	4B		
1 dent	6B	12B	
1 dent	2B	8W	
	4W		
1 dent	4W		
	2G		
12 dents	6G	78G	
1 dent	4G		
	2W		
10 dents	6W	64W Selv.	
1 dent	2W		

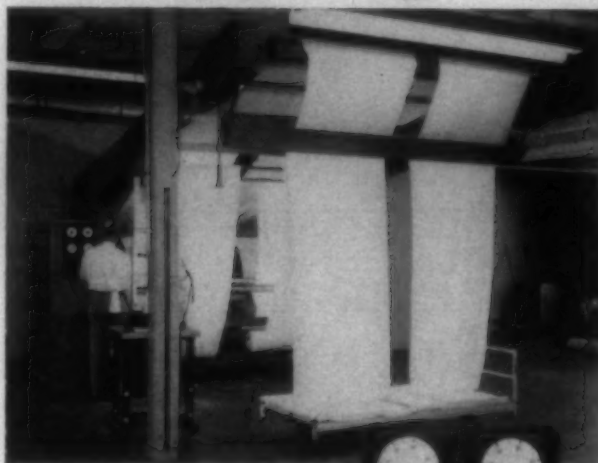
372 ends + 12 repeats

+ 184 ends extra
= 4,776 total ends

The designer's drawing-in-draft usually starts at the left and finishes on the right. If the slasher operator would lay in the ends in the expansion comb from left to right, this would place the pattern on the loom beam in reverse. With the pattern centered as above, there is no danger of getting the pattern reversed for both sides are the same.

Next month we will consider the fabric weight and yarn calculations for this Chambray fabric.

Pressure Controlled Napping



30 Roll Double Acting Hi-Torc Napper napping two strands of cloth.

The entire story of the complete napping operation is registered on this single panel.



By the simple means of adjusting the pressure, Gessner rigidly controls the entire cycle of napping — the progress of the cloth, the napping energy, the rotation of the rolls, everything. The operator alone can change it and right at the control panel.

With no belts to slip, pressures can be adjusted to any napping requirements. Amount of pressure, once determined, may be re-established anytime.

THERE ARE 5 GESSNER HI-TORC NAPPERS:

24 Roll Double Acting Hi-Torc, 30 Roll Double Acting Hi-Torc (Shown), 24 Roll Single Acting Hi-Torc, 24 Roll Knit Goods Hi-Torc, Laboratory Hi-Torc.

DAVID GESSNER CO.
WORCESTER, MASS.

SOUTHERN REPRESENTATIVE: Richard A. Herard, 222 Piedmont Bldg., Greensboro, N. C. WESTERN REPRESENTATIVE: E. G. Paules & Co., 1762 West Vernon Ave., Los Angeles, California, CANADIAN REPRESENTATIVE: W. J. Westaway, Montreal, Quebec; Hamilton, Ontario.

The Stroboscope—A Valuable Quality Control Tool

STROBOSCOPIC EXAMINATION OF YOUR MACHINES WILL HELP TO SOLVE OPERATIONAL IRREGULARITIES

By MICHAEL J. FITZMORRIS*

THE stroboscope is not new to the textile industry, in fact, it has been commercially available since 1935. Most of you have probably used stroboscopes in your plants, for one purpose or another. The textile industry, with its emphasis on higher operating speeds for almost all its machinery, has changed markedly since 1935. The stroboscope too has changed, and recent improvements have made it more useful than ever to the textile industry.

Several applications of the stroboscope in the textile plant, a brief description of the stroboscope, what it can do and important characteristics to be considered in the selection of one are outlined.

Applications

One of the most important uses of the stroboscope is the measurement of spindle speeds on spinning or roving frames. The variation in speed among spindles on the same frame can be easily detected if the stroboscope is set at nominal speed and the light beam is swept down the row of spindles. If the spindle speed is correct, the bobbin should appear stationary under the stroboscopic light. If the spindle speed is low because of dirty bands or tapes, for example, the bobbin will appear to turn slowly in a direction opposite to the normal rotation. The rate at which the bobbin appears to turn directly indicates the amount by which the bobbin is under speed. Stroboscopic observation is extremely sensitive to small differences between the bobbin speed and the stroboscope flashing rate. For example, for a normal spindle speed of 6,000 r.p.m., a 1% decrease in speed will appear as a one revolution-per-second movement of the bobbin. Correcting the cause of low spindle speed can increase production and eliminate soft yarn.

*General Radio Co., West Concord, Mass., an abstract from a paper presented at the A.I.E.E. Electrical Equipment For The Textile Industry Conference, November 10-11, 1960, Raleigh, N. C.



One of the most important uses of the stroboscope in the textile mill is the measurement of spindle speeds on twisting, spinning or roving frames.

The stroboscope can be used to detect many other defects in the operation of a spinning frame, such as spindles out of plumb, crooked and worn bobbins, bobbins that are choked or do not fit the spindle properly, worn travelers and ring rails that are not level. Most important, the stroboscope permits observation of a spinning frame in action, so that the need for maintenance is discovered before it shows up in poorly woven material. Recent improvements in portable stroboscopes, particularly with respect to light intensity, greatly reduce the time required to check spindle speeds. The increased light and shorter flash duration enable the operator quickly to detect improper operating conditions. It is possible, for example, to see the lay of the yarn on the bobbin and the beard on the yarn.

The stroboscope can be extremely helpful in observing the operation of the shuttle on a loom. Because of the relatively slow picking rates at which shuttles operate, the stroboscope must be synchronized automatically with the shuttle. High-intensity wide-beam stroboscopes are usually used to observe shuttle operation. Proper synchronization can be obtained by means of a mechanical contactor attached to the camshaft or crankshaft. With this setup, the shuttle can be stopped at any position in its travel to observe the entrance of the shuttle into the shed, the boxing of the shuttle, details of the traverse of the shuttle through the shed, or looping or slapping of the filling as it is delivered from the bobbin. Improper timing or misadjustments can also be detected.

The stroboscope can be used to observe the operation of many other types of textile machines. For example, in a circular knitting machine, the needle latch operation, needle alignment and sinker action can be clearly seen in slow motion. The speed and operating details of a twister-winder or a slow-motion study of the operation of a high-speed quiller can easily be made. The stroboscope can also be used to observe the power input portion of textile machines. Gear alignment, excessive vibration, input motor speed and alignment of chain-link drives are only a few of the many details that can be observed.

What Is A Stroboscope?

The stroboscope is an instrument that co-ordinates the rate of flashing of light with the revolutions or movements of an object to bring that object to an apparent stop or slow motion position without actually halting operation.

The heart of this electronic unit is a gas-discharge lamp that can produce a very bright, very brief flash of light. The high energy required to produce the arc within the lamp is obtained from a charged capacitor, which is recharged between flashes by a d.c. power supply. The voltage required from the d.c. power supply varies from the few hundred volts for neon flash lamps to the 10 or 20 thousand volts for very high-intensity or short-duration flash lamps.

The instant when the flash of light occurs is controlled by a trigger voltage. The high-intensity flash lamps require a triggering pulse of several thousand volts. This trigger pulse is generated by means of a high-current tube such as a thy-

atron and a pulse transformer or spark coil similar to that used in an automobile ignition system.

The flash lamp, discharge capacitor, d.c. power supply and trigger circuit are necessary in even the most elementary stroboscope. A more useful stroboscope, however, would also contain a circuit called an oscillator to control the flashing rate of the strobotron lamp as well as a sensitive input circuit so that the flashing rate can be controlled by external electrical signals or mechanical contacts.

What Can A Stroboscope Do?

If the flashing rate of a stroboscope is adjusted to be exactly the same as the rate of rotation of some moving object, the eye sees the object in exactly the same position each time it is illuminated. As a result, the object appears to be motionless. If the flashing rate is above approximately 900 per minute, the eye retains the image between flashes to give the illusion of a steady image. Below this rate the image flickers, but it is still possible to determine that each successive observation is the same. If the flashing rate of the stroboscope is calibrated in flashes per minute or revolutions per minute, the speed of the moving object can be easily determined from the dial reading. A stroboscope that includes an oscillator calibrated in r.p.m. can therefore be used as a tachometer to measure the speed of rotating or reciprocating objects without making physical contact with the object. The accuracy of the speed measurement is a function of only: (1) accuracy of the r.p.m. dial calibration; and (2) the ability of the operator to adjust the flashing rate so that the motion being measured is apparently stopped.

Since there is no physical contact between a stroboscopic tachometer and the moving object, there is no problem in finding a suitable place for attachment. And since the stroboscope does not load the rotating device, it gives a true indication of its normal speed.

Several precautions must be made to insure the indicated speed is correct. If the stroboscope is flashing at one-half, one-third or at any integral submultiple of the speed being measured, the same single-image pattern will result. The highest flashing rate that results in a single-image pattern is the correct setting.

The stroboscopic tachometer can also be used to measure speeds higher than the maximum direct-reading range of the instrument. Measurements of very low speeds (below 600 r.p.m.) can usually be simplified if the stroboscope is operated at two or three times the actual speed. The speed reading is then divided by the number of images appearing in the pattern.

Another major use of the stroboscope is the viewing of high-speed objects in apparent slow motion. If the flashing rate of the stroboscope is slightly lower than the rate of rotation of the moving object, the object will move slightly more than one revolution between flashes and will appear to move slowly forward. If the flashing rate is slightly faster than the rate of rotation, the object will appear to move slowly in the opposite direction. Because of its ability to show high-speed machines in apparent slow motion, the stroboscope is a valuable tool in the textile plant, where the behavior of textile machinery can be observed at normal operating speed. Malfunctions of all kinds can be detected by this technique.

If the rotating speed is not constant or if the speed is below 600 r.p.m., it is usually necessary to automatically synchronize the flashes from the stroboscope with the motion of the object under study. A mechanical switch operated by a rotating shaft can be used to trigger the stroboscope and produce the desired synchronization. By rotation of the switch with respect to the

Wet Processing with PQ SODIUM SILICATES



Liquid and crystalline silicates. A century's experience in producing silicates offering a selection of alkali to silica ratios for individual mill operations:

OPERATION	SILICATE	WT. RATIO %Na ₂ O-%SiO ₂	CHARACTERISTIC OR DESCRIPTION
Bleaching and / Caustic Saturator	STAR	1:2.50	Specially clarified liquid
	STARSO	1:1.8	Specially clarified liquid; more alkaline than Star.
Kier Boiling	STAR	1:2.50	Specially clarified liquid
	METSO GRANULAR	Mol. Ratio 1:1	Sodium metasilicate pentahydrate
Detergent Operations	METSO GRANULAR	1:1	Sodium metasilicate pentahydrate
	METSO ANHYDROUS	1:1	Sodium metasilicate anhydrous
	METSO 99	3:2	Sodium sesquisilicate
	METSO 200	2:1	Sodium orthosilicate concentrated
Water Treatment (Coagulation & Corrosion)	N	Wt. Ratio 1:3.22	Opalescent, syrupy liquid

Specify PQ Silicates for textile operations. Conveniently available

PHILADELPHIA QUARTZ COMPANY
1170 Public Ledger Building, Philadelphia 6, Pa.
PQ SOLUBLE SILICATES
9 PLANTS • DISTRIBUTORS IN OVER 65 CITIES
1831 - 130th ANNIVERSARY - 1961 TRADEMARK REG. U. S. PAT. OFF.

DRONSFIELDS' PATENT ATLAS BRAND EMERY FILLET

U. S. A. Pat.
2426441



STOCKED BY
**THE PRINCIPAL MILL SUPPLY HOUSES
AND CARD MAKERS**

**BE SURE YOU SPECIFY—
ON YOUR NEW FRAMES**



Only PNEUMAFIL

gives you exclusive "air flow" suction to "swallow" more air, capture more lint, enable faster front roll speeds. Special ring diffuser fan gives widest range of operation at peak efficiency. Choice of three discharge arrangements.

plus

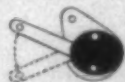
DELTAFLUTE



A powerful new "lap fighter." Unique shape allows closer flute positioning under front roll. Shorter, wider orifice concentrates air stream at point of maximum lint generation for remarkably good cleaning.

plus

DUFLEX



Instant and effortless two-position suspension of flutes permits operator to work around rolls with both hands. Eliminates danger of scratched orifices which cause lint accumulation.

PNEUMAFIL CORPORATION • CHARLOTTE 8, N. C.



**Custom Made
RUBBER PARTS**

Working on a new product or machine that requires special rubber parts? Let our engineers help you solve your problem.

We have experience in manufacturing rubber parts for the Textile Industry—can make parts resistant to both grease and ozone.

RADIATOR SPECIALTY CO.
CHARLOTTE, N.C.




COMPLETE BEAM SERVICE

Cast iron loom beam heads with cut tooth or sand tooth gears, and adjustable steel beams. Any size and type.

Repairs and Repair Parts on any make and size warper section beams.

Reasonable prices.

Cronland Warp Roll Co., Inc.

LINCOLNTON, N. C.

Tel. RE 5-6564

shaft, it is possible to stop the moving object at any position in its travel.

Several characteristics should be considered in the selection of a stroboscope. Among the most important are the lamp characteristics: color, intensity, flash duration and beam width. Almost all modern stroboscope lamps use xenon gas, which gives a white light somewhat bluer than sunlight. The advantages of a white light are better contrast and the ability to see objects in their true colors. Two other important characteristics are peak intensity (usually expressed in candle power) and the duration of the light pulse. The product of peak intensity and flash duration (usually expressed in candle-power-seconds) is an indication of the amount of light per flash available to illuminate an object. The larger this product for a given flashing rate, the easier it will be to view a moving object under high ambient light conditions. This product may be made large by use of a high peak intensity, a long flash duration or both. Stroboscopes having a very high light output per flash usually have a high peak intensity and a relatively long-flash duration (approximately 40 microseconds). Because of the power required per flash, this high light output can be obtained only at low flashing rates. However, as the flashing rate increases, the light per flash required to obtain a given illumination of a moving object decreases.

The duration of the flash is important, particularly when high-speed objects are viewed. The shorter the duration of the flash, the clearer the detail of high-speed objects. One stroboscope combines a relatively large total light output per flash with a very short flash duration (1-3 microseconds). These characteristics make it possible to view moving objects under high ambient light conditions and obtain a very clear picture of fast-moving objects. The beam width produced by a stroboscope is important if a relatively large area, such as the shuttle of a loom, is to be illuminated.

If the stroboscope contains an internal oscillator, it is important to consider the range of flashing rates it will produce, its stability during a normal operating day after a reasonable warm-up time and the ease of calibration. If the stroboscope will accept external signals for synchronizing the flashing rate, it is necessary to know the type of in-puts it will accept (that is, electrical or mechanical) and the wave shape and magnitude required of electrical signals.

The packaging of the stroboscope is particularly important in the textile field. The stroboscope should be portable enough to be easily transported around the plant and rugged enough to withstand normal abuse. The lack of adequate portability is frequently given as the main reason for not using a stroboscope more often around the plant.

Conclusions

The uses of a stroboscope within the textile plant are unlimited. In general, the stroboscope can be used to observe any rotating or reciprocating motion in a textile machine. Frequent use of the stroboscope as a preventive maintenance tool or as a convenient tachometer can keep production at a peak and can greatly reduce the number of seconds produced in the plant. Recent developments have made the stroboscope smaller, more portable and brighter. Although the textile industry has produced machines that are extremely fast, the modern stroboscope, with flashing rates up to 25,000 per minute and very short flash durations, can easily stop these machines. The stroboscope is prepared not only to help the textile industry maintain its present machines, but to play a part in the development of the machines of tomorrow.

A Banker Looks At The Textile Industry

IF YOU'RE USING THE GENERAL INDUSTRY SITUATION
AS AN EXCUSE FOR YOUR OWN MANAGEMENT FAILURES,
YOU'RE PULLING THE HOLE IN ON TOP OF YOURSELF

By **JOE H. ROBINSON***
Senior Vice-President
Wachovia Bank & Trust Co.

THE textile industry has had a pretty rough time of it lately. Industry statistics clearly reveal it. Despite a very good first half, cotton broad-woven production ended 1960 2% below 1959. By October prices were 4% under the prior year and continued downward. Mill margins dropped 11% in eight months, and the only thing that held them that high was the fact that cotton prices hit a ten-year low.

Imports rose 54% in 1960. For the first time in nearly a hundred years, imports exceeded exports! Exports were off 8% to the lowest point since 1940.

Despite this rather gloomy picture, the textile industry—in a desperate effort to keep its head above water—last year invested \$530 million in new plants and equipment. This was 29% above 1959 and the highest amount since right after the war.

In the face of all this we did an informal survey of some 25-30 textile accounts. The pattern was far from uniform, however. Their profit picture for the year varied from minus 100% to plus 300%, compared with 1959. In many instances the results could be easily explained by circumstances. But more often than not there was no explanation beyond management—its ability, flexibility, foresight.

This led us to the conclusion that too much emphasis has been placed on the general industry situation. Perhaps it is an easy excuse for managements' failures. The real test is not conditions in the industry but the way individual management meets these conditions. We saw dramatic proof it *could* be done. Not by negative explanations and apologies, but by positive thinking—and action.

This pointed up to us once more the fact that in our appraisal of an account, the really basic consideration in any credit analysis goes far "beyond the statement." It is not represented by dollars and cents figures on any balance sheet or profit and loss statement.

Too often our customers, textile included, approach us with a statement in a relatively balanced position and with a "paper" profit showing. They can't understand our reluctance to go the limit with them on the basis of this alone. True, these are essential, but there are far more basic considerations for any credit.

"Profit," for example, is made up of many elements. Some rely on their low cost of operation. They show a nice operating profit and it covers, to a large degree, poor purchasing and selling practices. Some make their profit exclusively on sales. A "sales" profit generated by an aggressive sales organi-

zation can cover a multitude of sins. Others make their profit on cotton. This doesn't usually reflect management ability, only a lucky gamble; though I'll have to admit some hit it right too often to call it gambling. Frankly, I have several customers who would be far better off to get out of textiles and set themselves up as cotton merchants.

Too seldom do you run across a textile operation combining all three of these elements, a truly balanced situation. These strengths and weaknesses are an excellent test of management ability, a real measure of the job being done on all fronts.

Many companies approach the bank showing big profits under adverse business conditions. Realistically, we know this is only a "paper" profit, achieved only by spending capital. Their plant has been largely depreciated and profits inflated accordingly. This represents the poorest sort of management. They are living on borrowed time. If they survive at all they will be back in a few years with no profits, no prospects for any, and a desperate credit request for funds to replace those they dissipated. From a realistic standpoint, a mill with far smaller profits—or even a loss—is the far better credit risk.

Banks, as well as textile management, must look at depreciation realistically. Conforming to the Internal Revenue Department's schedules means very little. Unfortunately, these schedules are not realistic, and if real progress is to be made by American industry—relief has got to be forthcoming. Right now there is \$2 billion worth of excess textile investment—sitting idle or nearly so. It can't be run profitably, but it's still on somebody's books. Obsolescence has been a big factor in textiles in recent years, and with competition so keen, margins so close, labor making up such a big part of costs, survival demands that further modernization must come. Obsolescence will be an even bigger factor in the future. This has to be faced. There is no use in crying over what this will do to current operating statements. It's do or die!

Tied in with this is the fact that too many times (particularly in family-owned enterprises so typical of textiles) ownership fails to understand that to just preserve their investment *they must nourish it*. Profits, hard as they are to come by and taxes as heavy as they are, must be ploughed back. It is no longer a question of just getting ahead. It is a matter of life or death.

Typically, the financial needs of textile concerns go even further than this need for new plants and equipment. It is a volume business conducted by relatively small enterprises. One of its most glaring characteristics is a shortage of working capital. Factoring, for example, was born in the industry and textiles remains its biggest user. It is pointed up time and time again that the most successful companies are those with ample financial resources. Tight profit margins don't leave room for expensive, unnecessary borrowing. Today

*Abstracted from a paper delivered before the Charlotte Textile Club, April 10, 1961.

KLUTTZ Lubri-Cased Rings* START FAST



LAST
LONG

Kluttz Spinning Rings get going fast . . . usually with two travelers in 12½ to 25 hours . . . and at initial speeds of 7000 fpm. Thereafter they will run at any speed the average frame can obtain. Kluttz Lubri-Cased Rings not only have an average wear factor of 25% better than ordinary rings, but they also greatly increase traveler life.

For faster break-ins, higher spindle speeds, and longer service, Kluttz Lubri-Cased Rings have no equals. Write for samples and prices today.

*Trade Name —Patented

Representatives: Thomas H. Watson, Maiden, N. C.; Hugh K. Smith, West Point, Ga.; L. D. Talley, Mexia, Texas
For New England & Canada: Textile Parts, Taunton, Mass.

KLUTTZ

RINGS, Inc.

Gastonia, North Carolina

Call on us
for fast
service on
Textile Machine
parts
Mill Supplies

Our Specialties

Gears and Chain Drives
Card Flat Stand Driving Brackets

Standard items are shipped
from stock the same day
order is received.

Ask for Catalog—please specify your make machinery.

HARLEY MITCHAM & CO.

N. Marietta St.—P. O. Box 271
Gastonia, N. C.
Phone University 5-8547

American industry draws a greater and greater share of its profits from finance—financing their customers. But few textile operations are in a position to meet just their own basic financial needs. It is another hardship, and it must be considered in evaluating any credit.

There is another side we see also, the people who lose their balance and go too far the other way. They seek credit for unrealistic expansion—for modernization on the basis of unrealistic savings it will achieve. They forget that debts are paid in hard cash, not wishful dreams.

Almost daily we are approached by someone for funds to expand production facilities, without considering what this will mean in terms of enlarged sales operations if it is to pay off, without considering what working capital needs will be to sustain this level of production and inventory.

Others want to form their own sales organizations—get the middleman's profit—without realizing that they don't have the production capacity to make this feasible.

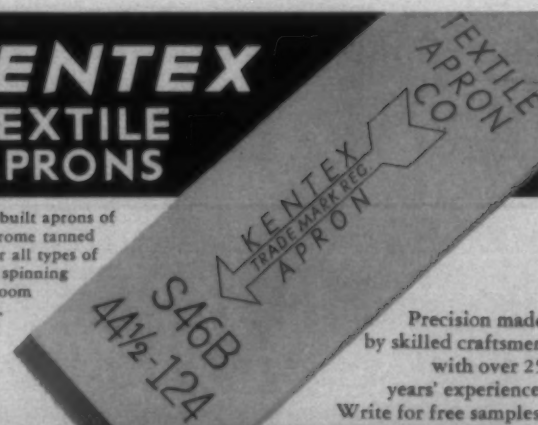
Too often, too, management gets carried away with a machinery salesman's estimates of savings a new piece of equipment will deliver. They assume that with costs cut that much they can easily pay off the cost in five or ten years of easy payments, and increase dividends to boot. Realistically, they ought to realize that any edge this gives them will be short-lived. Within a short time competition will be on a par and this margin will disappear.

These are just a few examples of the things a bank must examine "beyond the statement." Unfortunately, we do not have a crystal ball. The only way we have of evaluating management, and in essence the goodness of the credit itself, is by proven accomplishments. Past experience. Through circumstances even a fool can show a profit—occasionally. But only good management can produce results year after year, in good times and bad. It takes progressive management, an awareness of all areas, problems and opportunities within the organization, a management that has broad concepts and sound flexible judgment.

By its nature, I am convinced that textiles is more demanding of management than any other industry. Mediocre management can often hide behind protection of one sort or another in many industries. Lack of effective competition, a patent, or anything can carry a company along for years. But in textiles you fight your own battles. The only margin you have is yourself, your business ability.

**KENTEX
TEXTILE
APRONS**

• Custom-built aprons of bark or chrome tanned leather, for all types of long draft spinning and card room machinery.



Precision made
by skilled craftsmen
with over 25
years' experience.
Write for free samples.

TEXTILE APRON CO., East Point, Ga.

HUGH WILLIAMS & COMPANY, TORONTO, CANADA—CANADIAN REPRESENTATIVE

The Loomfixer And His Job

Part 29

LOOM LUBRICATION SHOULD BE DONE ON SCHEDULE AND THE LOOMFIXER MUST SEE THAT IT'S DONE CORRECTLY

By WILMER WESTBROOK

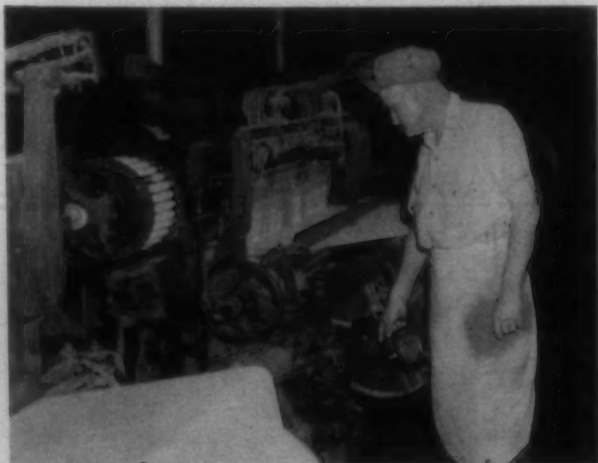
IN most mills the lubrication chore has been taken from the loomfixer and assigned to a regular oiler. Some of the reasons for this change are:

- (1) A loom can be lubricated by a less-skilled employee and extensive training is not required.
- (2) Being less-skilled than the loomfixer, the oiler is paid less, and the labor cost is reduced.
- (3) Since the oiler only has one job, that of lubricating the looms, he can devote his full time to it in a systematic manner.
- (4) When the lubricating of looms is part of the loomfixer's duties he often has other tasks that need his immediate attention and loom downtime is caused by his inability to perform more than one task at a time.

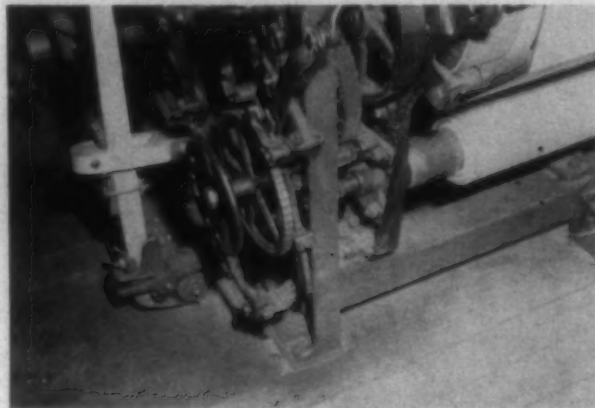
Although it is usually best for someone else to do the actual lubricating, it should still be the loomfixer's responsibility to see that it is done right. Not only is it in the best interest of the mill to have the looms properly lubricated but it is also best for the loomfixer—correct lubrication of his looms will do more than any other one thing to make the loomfixer's job easier.

How much and how often to lubricate the various loom parts is a problem to be solved at the local level. Although the manufacturer issues lubricating charts, they are to serve only as a guide to help originate a schedule for the individual mill. The type of loom, its speed, the kind of cloth woven and conditions such as temperature and humidity are all factors that should be considered.

Some movements of a loom operate at a high speed while others are so slow that motion is barely discernible. Extreme examples are the motor pinion at more than 1,700 r.p.m. and the battery disc that only makes a partial revolution in an hour. There are revolving, reciprocating, sliding and rolling actions at various speeds.



The lubrication chore can be delegated to a less-skilled employee and relieve the loomfixer for more specialized duties.



Loom parts such as the take-up motion and the parallel assembly need more frequent lubrication than other, more protected parts.

It is obvious that some parts require more frequent lubrication than others; also that different types of lubricant are needed for different applications.

A lubrication schedule should be devised to:

- (1) Provide lubrication for each part as needed.
- (2) Have the lubrication points laid out in regular sequence to avoid unnecessary movement and backtracking.
- (3) Have the lubrication chore performed in a manner that will interfere least with the normal operation of the loom.
- (4) Time the lubrication of each part so that a minimum amount of grease or oil will give maximum protection. A thin coating of lubricant on the contact surface is all that can be applied usefully—any excess is wasted.

There are three accepted methods of applying lubricant to loom parts. They are:

- Grease applied to bearings, shafts, studs and bushings with a grease gun.
- Grease applied to gears, cams and other contact surfaces with a brush or paddle.
- Oil applied to bearings and contact surfaces with an oil cup.

The loomfixer should assist the oiler and the supervisor in devising a workable lubrication schedule for his looms. Observation and a close study of parts failure will give clues to lubrication needs.

A daily schedule should be drawn up and posted on both loomfixer's and oiler's cabinets or work benches so that each loom part will receive attention when needed. Following is a list showing the frequency with which most parts need lubrication. The individual mill may find that twice as often or half as often as listed will meet the requirements of its looms.

Daily—

- Rocker shaft bearings
- Pick shaft bearings
- Crank shaft bearings



Dary RING TRAVELERS...
SINCE 1898
THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS
LINDSEY L. PHILLIPS, Treasurer, Taunton, Mass.
Consult your friendly Dary Representative:
JOHN H. O'NEIL Box 720, Atlanta, Ga.
JAMES H. CARVER Box 22, Rutherfordton, N. C.
CRAWFORD "JACK" BRYNER Box 2261, Greenville, S. C.

TELEPHONE UN 5-0371 WORKS N. MARIETTA ST.

**BARKLEY
MACHINE WORKS**
MANUFACTURERS OF
**TEXTILE MACHINERY
PARTS**

GASTONIA, NORTH CAROLINA

the weaver's friend

there is
no substitute for
UNIFORMITY
and
KEEVER SERVICE



THE **KEEVER** STARCH COMPANY

TEXTILE SALES DIVISION
119 South Pleasantburg Drive
Greenville, South Carolina

Pick ball stud
Crank arms (crank shaft end)

Twice Weekly—

Protector rod bearings
Worm and worm shaft bearing
Auxiliary shaft bearings
Cam shaft bearings
Sliding clutch disc
Pick cams
Vibrating whip roll cam
Pick change gear and stud
Worm take-up shaft bearing
Parallel assembly
Treadles
Clutch cone and fingers
Whip roll bearings
Pallets
Let-off shaft bearings
Whip roll vibrator rod
Thread cutter parts
Temples

All other working parts of the loom should be lubricated weekly or at warp-out, whichever is first. Every part of the loom should be inspected and lubricant applied as needed at warp-out. Clean out all oil holes and replace any defective grease fittings. Remove strings from shafts and studs. Wipe all metal surfaces with any oily rag to combat rust and corrosion.

Some parts of the loom should be completely disassembled, inspected, cleaned, and lubricated periodically. These parts are the battery, the top or head, the take-up and the let-off motions.

With the aid of a lubrication engineer, who will be sent on call from any major lubricant supplier, determine the type, weight and grade of lubricant to use for each loom part. The engineer will also be helpful in devising your lubrication schedule.

Once you have determined the type of lubricant, the amount needed, the frequency of application, the method of application and the sequence in which the lubricant is to be applied, all that remains is to see that the program is carried out. Correct lubrication is the key to loom maintenance—without it all other maintenance is wasted.



With special equipment, such as this self-powered pressure greasing unit, the oiler can lubricate hard-to-reach places easily and efficiently.

Static Drives For Controlling D.C. Motors Offer Flexibility And Lower Cost Installation

THE NEW REACTIFIER DRIVE FROM WESTINGHOUSE IS BEING USED TO OVERCOME MAINTENANCE PROBLEMS ASSOCIATED WITH MOTOR GENERATOR SET DRIVES

By F. T. BAILEY*

RAPID strides are being made towards attaining finer and more flexible operations of adjustable speed systems. With the advent of the completely packaged d.c. motor control, the mill owners no longer had to contend with separate m.g. (motor-generator) sets located away from the machines and control panels. They were able to eliminate extensive conduit and wiring between scattered units. The packaged drive made it possible for them to control the operation of their machine from the normal a.c. power supply and with the conversion and control equipment mounted near the machine site. As a result, installation costs were reduced and a more convenient physical arrangement was obtained. It was now possible to have the machine, the drive and the operator in one close area.

Even though packaged drives with m.g. sets represent a considerable improvement over non-packaged drive systems, there are still problems confronting operators and maintenance men. Motor generator sets still require the usual periodic maintenance. Dirt and dust require replacement of filters and there are the problems of space requirements, noise and adequate ventilation.

The control industry, as a result of its efforts to improve the design and operation of the speed control systems, has presented a new concept for controlling the speed of d.c. motors. The formal title, "Magnetic Amplifier Controlled Silicon Diode Power Supplies for D.C. Motors," is descriptive of the type of control, but quite cumbersome and, as a result, various trade names have been adopted to identify it.

The rectifier drive, as it is called by Westinghouse, is a static adjustable speed controller which has been completely packaged except for the d.c. motor and the operator's controls. It has been used in place of rotating machine drives in many instances where maintenance problems associated with the motor generator set drives are difficult to handle.

Applications

The textile industry has been one of the first major groups to discover the merits of the static drive. Several textile mills have these drives to power multi-motor ranges and slashers. One installation equipped a four-section finishing range with rectifier drives. There are four drives which are rated at 100, 20, 40 and 40-h.p., respectively. Each section can be operated separately or in tandem with each other in a number of combinations.

*Systems Control Department, Westinghouse Electric Corp., Buffalo, N. Y., an abstract from a paper presented at the A.I.E.E. Electrical Equipment Conference for the Textile Industry, Raleigh, N. C., November 10-11, 1960.

The drives for this range contain static acceleration-deceleration ramp function generators to accelerate or decelerate the motors to a preset speed at a constant rate. After the motors reach optimum speed, the counter E.M.F. regulator maintains nearly constant regardless of changes in loading.

This is one of the most complicated range drives because of the switching sequences necessary to produce the combinations of tandem operation. However, the basic static drives are no more complex than those designed for single motor operation.

In another installation of static range drives, acceleration and deceleration of the ranges was accomplished by a motor-operated rheostat in some while a static ramp function generator was used for the range motors. At each of these mills, the static drives are similar. The only differences are the number of motors controlled and the methods used to accelerate and decelerate them.

How Does It Work?

The rectifier drive is a system which utilizes principles known for a long time but were not generally used until the silicon rectifier was developed. It is static and has no brush or bearing problems; is compact; is convection cooled in all sizes up to 100 h.p., giving no ventilation or filter problems; and contains no rotating machines, making it inherently quiet. Components are designed so that maintenance has been reduced nearly to the point where the feather duster becomes the major tool of the maintenance man.

The rectifier converts a.c. to d.c. power by means of silicon rectifiers and applies it to the armature of d.c. shunt motors. Three-phase power supplies are most generally used because of the low ripple factor in rectified voltage and because it is economical. Single-phase systems are used up to 5 h.p. The amount of d.c. voltage is determined by power magnetic amplifiers using silicon rectifiers. In addition to their normal function of rectifying a.c. power, the silicon rectifiers provide self-saturation of the power reactors.

A measured and controlled d.c. current is permitted to flow through the control windings of the reactors. This current determines the amount of magnetic flux in the reactor cores and consequently the effective impedance of the a.c. power windings. As a result, the power supplied to the d.c. motor is proportional to the d.c. current flowing through the reactor control windings. Motor speed is determined by the armature voltage.

Besides the power reactors and silicon rectifiers, the static drive contains a magnetic amplifier (Magamp) which is used to control the power reactors. The Magamp circuit is entirely static and includes several isolated windings to permit the use

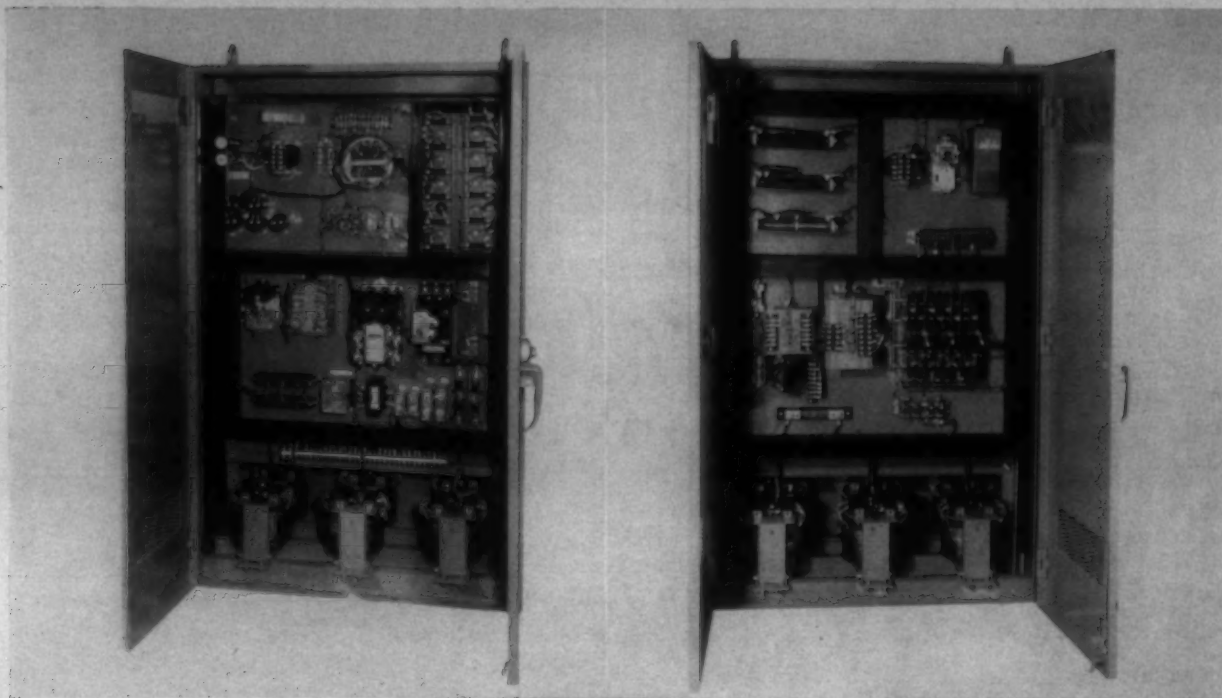


Fig. 1—Front and rear views of Reactifier drives showing power reactors in bottom of cabinet and silicon rectifiers on the panel.

of simultaneous control signals for obtaining a variety of features incorporated in the static drive. Armature voltage and current signals are fed to the Magamp to provide a counter E.M.F. regulator as well as current limit protection during acceleration and overloads. Voltage excitation for both the motor shunt field and the control circuit is obtained from a separate single phase full wave silicon rectifier.

The standard packaged static drive is enclosed in a floor mounted cabinet with doors on the front and rear for easy access, Fig. 1. The control panels, including the control Magamp, are mounted back to back while the power Magamps are mounted on the cabinet floor. If a line autotransformer is used to convert 440 or 575 line voltage to 230 volts, it also is mounted on the cabinet floor. A circuit breaker for disconnecting all incoming a.c. power is closed and opened by an operator's handle located on the cabinet. Operator's control pushbuttons and the speed control rheostat are remotely mounted at a convenient location.

Limitations Of Static Drive

Although the static drive has many advantages over the rotating machine drive, the principal limitation is that it cannot be used where regenerative braking is required. The silicon rectifiers will pass current in only one direction, consequently they are unable to absorb the current generated by a load driven motor when the armature voltage has been reduced.

When the voltage is lowered, the motor will coast and the only braking action results from load losses and bearing friction. To obtain quick slowdown of the motor, it is necessary to employ some version of dynamic braking, which does not produce a smooth controlled deceleration.

Static drives fit in readily with the requirements of multi-motor range and slasher drives, Fig. 2. They are capable of adequately covering the wide ranges of speed normally specified for these applications. The counter E.M.F. regulator, included in the drives, will maintain the speed constant

within plus or minus 5% of any speed set by the speed control potentiometer. In the event of a tangle or sudden application of an abnormal load, the current limit override circuit will hold the current to a safe value to protect the motors, silicon diodes and reactors until overload trips can function. Current limit protection will maintain the current at a safe value if a motor is stalled or a short-circuit occurs on the d.c. circuit.

Time and current limit acceleration of the motors can be obtained in a variety of systems ranging from the motor-operated rheostat to the completely static ramp function generator. This feature is most effective when several motors are to accelerate in unison even though the inertia of the loads varies between motors. Time limit acceleration permits the operator to press the start pushbutton and have the entire range or slasher accelerate at a constant rate to a preset speed.

Where a greater accuracy of regulation is desired and specified, circuits can be designed to maintain the speed as close as 0.1% of the base speed of the motor.

An additional circuit included in reactifier slasher drives regulates the power delivered to the motor during reel build-

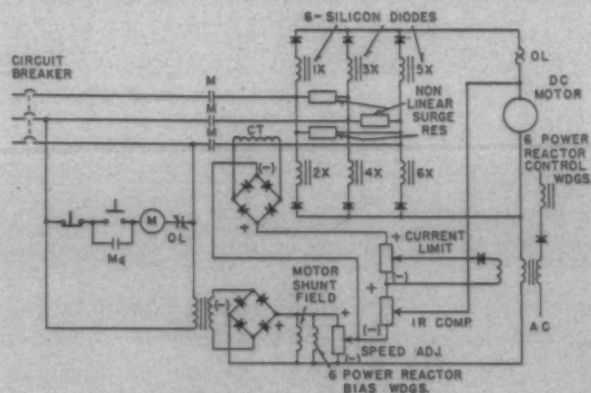
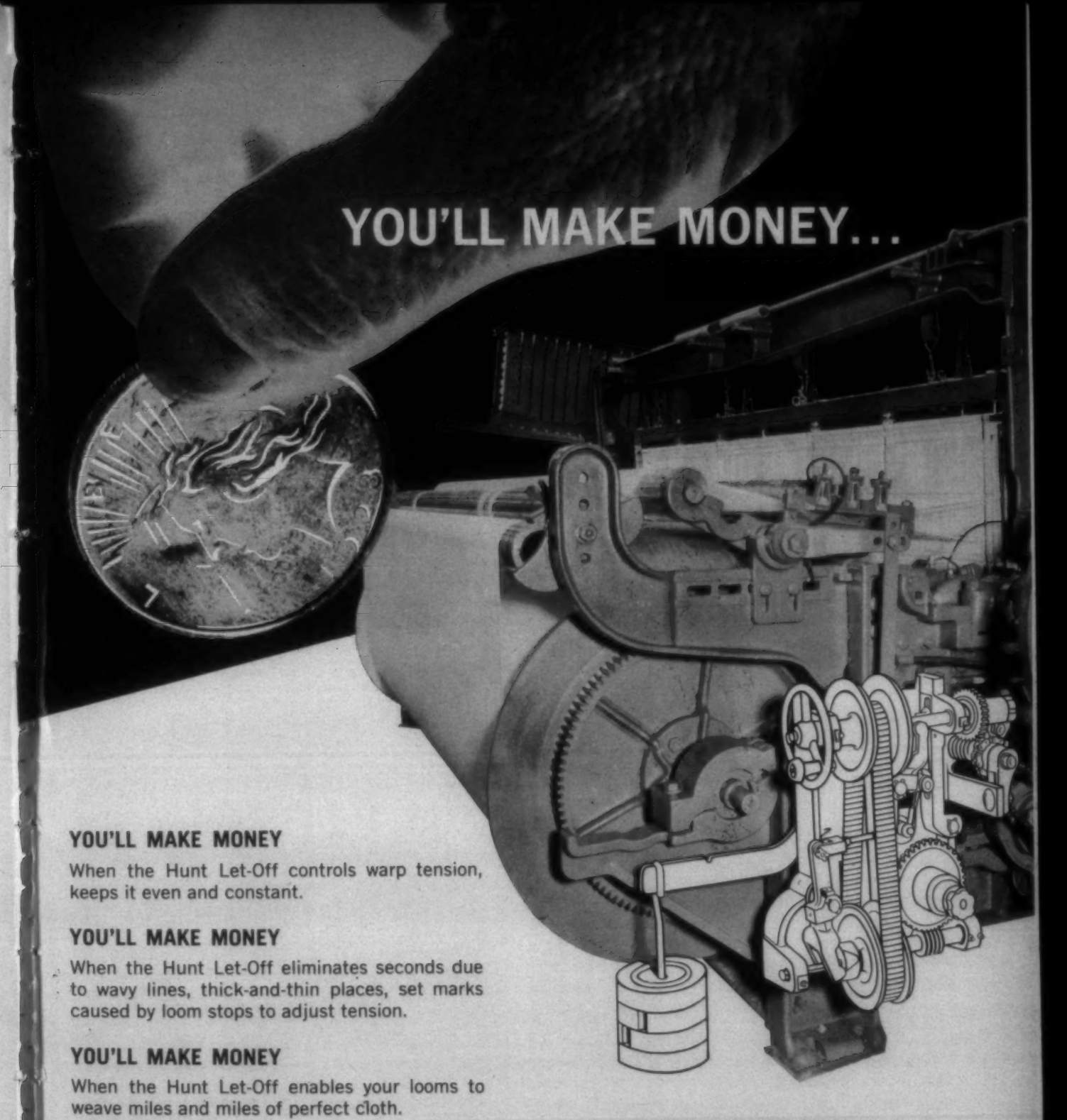


Fig. 2—A simplified diagram of the Reactifier drive for controlling the speed of d.c. shunt motors.



YOU'LL MAKE MONEY...

YOU'LL MAKE MONEY

When the Hunt Let-Off controls warp tension, keeps it even and constant.

YOU'LL MAKE MONEY

When the Hunt Let-Off eliminates seconds due to wavy lines, thick-and-thin places, set marks caused by loom stops to adjust tension.

YOU'LL MAKE MONEY

When the Hunt Let-Off enables your looms to weave miles and miles of perfect cloth.

YOU'LL MAKE MONEY

When the Hunt Let-Off eliminates the need for tension adjustments, reduces inspection time, makes your weave room more efficient.

YOU'LL MAKE MONEY

When you install the Hunt on looms in use, specify it on new looms from C&K or Draper.

For complete details about the Hunt Let-Off Write, wire or phone for free booklet.

SOMACO

SOUTHERN MACHINERY COMPANY
Box 3217—Station A • 5806 Augusta Road
Greenville, South Carolina • CRestwood 7-2116

In Europe or India:
Casablanco High Draft Co., Ltd.
Bolton St., Salford 3, Manchester, England

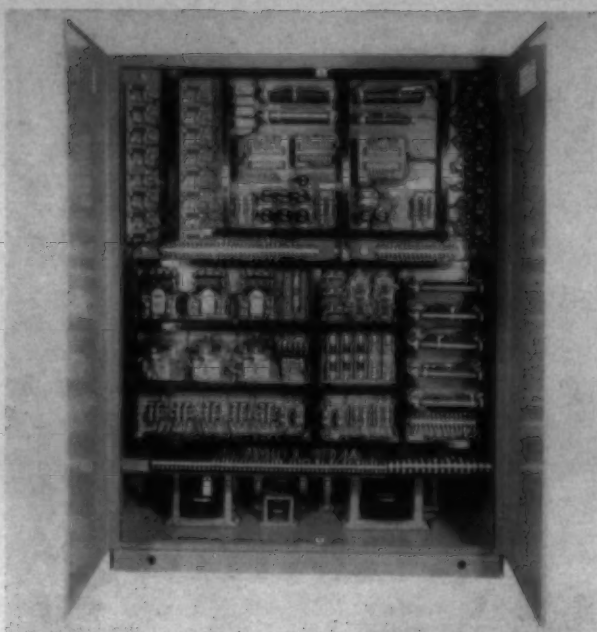


Fig. 3—This is a typical multi-motor slasher rectifier drive.

ups of as much as 6 to 1 (Fig. 3). The secondary result is that tension is held constant, provided that friction losses are normal. The tension control is a current regulator working in conjunction with the shunt field of the beam motor. This system is the same as the one used to control tension in slashers with the exception that the booster generators are replaced by static boosters.

For The Future

Present static drives are a great step in controlling the speed of d.c. motors. However, the control industry is seeking new ways to produce even more simplified and reliable motor controllers. The research laboratories are developing newer and better components which can be incorporated in circuits.

One of the most promising of the new developments uses the transistor or controlled silicon diode in place of the control Magamp. This results in considerable compactness. Quite a few of these are in actual service, giving excellent results.

Control manufacturers are at various stages of development of controlled silicon diodes for static drives. Some are being field-tested and others have been applied commercially. However, much work has yet to be done by the control industry before these drives are ready for general commercial application. When they are ready, the user will obtain a much more efficient and lighter weight drive.

Transistors, too, are being included in control circuits. Their smaller size and low control power requirements tease the designer into finding ingenious uses for them in motor speed control systems. They are becoming more popular as designers' tools because of increasing reliability and availability. It is to be expected that they will be found in many of the future circuits for controlling static drives.

Textiles Rate Considerations From The Controls Industry

Meanwhile, the textile industry is looking for new methods of producing better products. These efforts are directed towards all phases of the industry ranging from the production of man-made fibers to the ultimate finishing of goods.

Many of the new processes require special machinery to be commercially valuable. New machinery must be driven and, in some cases, under very precise control conditions.

Control manufacturers keep abreast of the textile requirements. Designers, development and application people are continually working as a team to anticipate and fill these requirements. The control manufacturer continues to search for better, more reliable and economical ways to do a job. When new methods are found and proven, they are incorporated into apparatus serving all industry. This is verified by the fact that there is now, the static drive. The textile industry is given special consideration in the technological programs of the control industry and is one of the first to benefit by them.

1962 Greenville Show Set For Oct. 15-19; 28,671 Registration Cited For 1960 Show

The 22nd Southern Textile Exposition will be held October 15-19, 1962, in Textile Hall, Greenville, S. C.

That's the word from James H. Woodside, president of Textile Hall Corp., sponsor of the show. Tentative applications have already been filed by many prospective exhibitors, including a number of companies that have not shown previously at Greenville. Advanced preparations for the event will be stepped up in the coming Summer months.

Registration at the show last Fall, at which entrance badges were used for the first time, totalled 28,671, according to final figures compiled by Textile Hall.

Registration Summary 21st Southern Textile Exposition October 3-7, 1960

Presidents, Vice-Presidents, Agents, Treasurers, Secretaries	612
General Managers, Managers, Superintendents, Asst. Superintendents	1,673
Overseers, Asst. Overseers, Supervisors, Foremen	5,879
Research—Quality Control (Engineers, Laboratory Technicians, Inspectors)	1,714
Administrative (Planning, Purchasing, Supplies, Billing, Shipping, Timekeepers, Clerical)	1,417
Plant Engineers, Master Mechanics, Maintenance Men	1,091
Section Men, Fixers, Card Grinders, Overhaulers	2,223
Plant Machinery Operators and Tenders	4,235
Instructors, Trainees, Students	782
Representatives and Observers from Banking and Industries Allied with Textiles	3,804
	23,430
Booth Personnel and Exhibitors' Guests	5,241
Total	28,671
Alabama	295
Alaska	2
Arkansas	2
California	3
Connecticut	12
Delaware	28
District of Columbia	11
Florida	22
Georgia	1,978
Illinois	16
Indiana	6
Kansas	5
Kentucky	1
Louisiana	3
Maine	4
Maryland	16
Massachusetts	45
Minnesota	3
Mississippi	3
Missouri	4
Michigan	11
Nebraska	3
New Hampshire	4
New Jersey	25
New York	88
North Carolina	6,316
Oklahoma	1
Ohio	37
Oregon	5
Pennsylvania	90
Rhode Island	19
South Carolina	13,943
Tennessee	237
Texas	31
Virginia	139
Wisconsin	5
	23,381
Canada	21
Foreign	28
	23,430
Booth Personnel,	
Exhibitors' Guests	5,241
Total	28,671

Cotton Broad Woven Fabric Production Is Up 2% In Fourth Quarter Of 1960

Cotton broad woven fabric production in the fourth quarter of 1960 was approximately 2% above the previous quarter and 9% below the fourth quarter 1959 level, according to figures released by the Bureau of the Census.

Production of print cloth yarn fabrics was 6% above the previous quarter's level. Towels, toweling and dish cloths and other woven cotton fabrics and specialties output was

4% above the previous quarter's level, while the production of all other fabric classes showed declines of from 1 to 7%. Compared to the comparable period of 1959, production of colored yarn fabrics declined 23%, and all other fabric classes declined 1 to 16%.

Production of cotton fabrics in the Southern states amounted to 2,053 million linear yards. This was 1% above the third quarter output. The New England production was 14% above output during the previous quarter.

Summary Of Production By Class Of Fabric (Thousands of Linear Yards)

	Oct.-Dec. 1959	July-Sept. 1960	Oct.-Dec. 1959
Cotton Broad Woven Goods, Total	2,335,019	2,192,841	2,447,677
Duck and allied fabrics	47,734	47,614	57,087
Sheeting and allied coarse and medium yarn fabrics	566,665	578,603	652,622
Print cloth yarn fabrics	822	779,202	878,483
Colored yarn fabrics	101,857	105,178	132,083
Towels, toweling and dishcloths	134,813	129,996	151,499
Napped fabrics, blankets and blanketing	42,900	45,915	48,975
Fine cotton fabrics	403,743	396,206	409,790
Other woven cotton fabrics and specialties	114,700	109,926	117,138

February Cotton Consumption Up From January, Down From February, 1960

Consumption of cotton in the U. S. in February totalled 637,116 running bales as compared with 636,686 running bales in January and 730,236 bales in February of last year.

Daily average consumption during the month was 31,856 bales as compared with 31,835 bales in January and 36,512 in February of 1960. Some 7,694 bales of foreign cotton were consumed during the month as compared with 7,162 in the previous month and 8,385 in February of last year. Following is a summary of consumption, stocks and spindle activity.

Summary Of Cotton System Activity

Item	February 1961	January 1961	February 1960
ALL COTTON (Running Bales)			
Total Consumption			
United States	637,116	636,686	730,236
New England	22,227	21,693	25,557
Cotton-Growing States	612,168	612,262	701,432
Daily Average Consumption			
United States	31,856	31,835	36,512
Cotton-Growing States	30,009	30,614	35,072
New England	1,111	1,085	1,278
Index of Cotton Consumption Adjusted for Seasonal Variations (1947-1949 = 100)	90	91	103
Stocks, Total	11,699,387	12,837,223	13,177,519
Consuming Establishments	1,838,492	1,691,930	1,968,738
Public Storage	9,856,894	11,145,293	11,208,781
Exports	(NA)	979,409	839,357
FOREIGN COTTON (Equivalent 500 lb. Gross Weight Bales)			
Total Consumption	7,694	7,162	8,385
Stocks	64,875	73,235	63,399
Imports	(NA)	374	6,161
MAN-MADE FIBER STAPLE (Thousand Pounds)			
Total Consumption	33,998	32,746	38,403
Stocks	33,590	32,072	45,041
Imports	(NA)	3,308	5,810
COTTON-SYSTEM SPINDLES			
In Place (Thousands)	19,793	19,881	20,083
Active (Thousands)	19,053	19,022	19,371
Hours Operated (Millions)	8,940	8,760	9,994

NA Not available.

Woolen And Worsted Consumption Shows 1% Increase In February From January

The weekly average rate of fiber consumption on the woolen and worsted systems in February was 1% above the January rate but 20% below the comparable month of 1960, according to the Bureau of the Census.

The weekly average raw wool consumption in February was 7,341 thousand pounds (scoured basis) or 1% above the January level and 17% below the February 1960 rate.

Consumption of apparel class wool was 6% above the January rate and 12% below February 1960.

The rate of consumption of carpet class wool decreased

ALL TYPES OF PICKER APRONS, BEATER LAGS—

APRON SLATS,
COMB BLADES,

W-3 WASTE
MACHINE
CYLINDERS
KIRSCHNER and
H & B BEATERS

NEW,
REBUILT
or
EXCHANGED
Workmanship
Guaranteed



APRONS MADE
ON CHAINS



LAP ROLLS

MODERN PLANT EQUIPMENT EXPERIENCED PERSONNEL

WE INVITE YOUR INQUIRIES.

SMITH TEXTILE APRON CO., INC.

NEW DALLAS HIGHWAY
GASTONIA, N. C.

PHONES: UN 4-1106 or UN-3-3170

INDUSTRIAL ENGINEERS

- MODERNIZATION PROGRAMS
- PLANT LAYOUTS
- COST SYSTEMS
- COST REDUCTION REPORTS
- WORK LOAD STUDIES
- MANAGEMENT PROBLEMS
- SPECIAL REPORTS

GREENVILLE, S. C.
Dial Cedar 2-3868
FALL RIVER, MASS.
Dial Osborne 6-8261

SPECIALIZING IN TEXTILES SINCE 1914

Ralph E. Loper Co.

ANTI-STICK
COATING



Coat

Slip

DRY FILM
LUBRICANT

NON-STAINING
Manufactured By

LIVINGSTONE COATING CORP.

P. O. Box 8282

Phone ED 4-1097

Charlotte 8, N. C.

5% from the preceding month and was 24% below the comparable period of last year.

Consumption of fibers other than raw wool averaged 4,785 thousand pounds per week. This was approximately equal to the rate of consumption during the previous month and 23% below the February 1960 rate.

Fibers Consumed In Woolen Spinning And Worsted Combing—February 1961 (Thousands of Pounds-Scoured Basis for Greasy Wools)

Classification	February 1961 (4 Weeks)		January 1961 (4 Weeks)		February 1960 (4 Weeks)	
	Aggregate	Weekly	Aggregate	Weekly	Aggregate	Weekly
All Fibers, Total	48,503	12,126	48,122	12,031	60,298	15,074
Raw wool	29,367	7,341	28,935	7,233	35,433	8,858
Apparel class	17,910	4,477	16,905	4,226	20,390	5,097
Woolen system	8,421	2,105	8,075	2,019	9,590	2,398
Worsted system	9,489	2,372	8,790	2,197	10,792	2,698
Carpet class	11,457	2,864	12,090	3,023	15,043	3,761
Wools, reprocessed and reused wool, and other animal fibers	10,258	2,564	10,000	2,500	13,994	3,498
Man-made fibers	7,578	1,893	7,891	1,973	9,438	2,360
All other fibers	1,302	326	1,276	319	1,433	358

Man-Made Broad Woven Goods Production Rises 3% In The Fourth Quarter Of 1960

Production of broad woven goods of man-made fibers was 588 million linear yards during the fourth quarter of 1960. This was 3% above the third quarter output and 7% below the fourth quarter 1959 output. Rayon and acetate fabric production was 1% above the output during the previous quarter, and 14% less than the output during the comparable period of 1959.

Production of man-made fiber fabrics in the South increased 3% compared to the previous quarter while output in New England plants decreased less than 1% and output in the Middle Atlantic states increased 5%.

Summary Of Production By Class Of Fabric (Thousands of Linear Yards)

Type of Fabric	Oct.- Dec. 1960	July- Sept. 1960	Oct.- Dec. 1959
Man-Made Fiber Fabrics, Total	588,068	570,708	631,548
Rayon and Acetate Broad Woven Fabrics, Total	339,207	334,925	393,864
Blanketing	10,581	11,567	15,152
100% filament rayon and/or acetate fabrics	157,871	153,105	165,085
100% spun rayon and/or acetate fabrics	47,635	52,355	64,994
Combination filament and spun rayon and/or acetate fabrics	23,460	23,836	36,654
Pile, upholstery, drapery, tapestry and tie fabrics	41,275	43,831	50,147
All other rayon and/or acetate mixtures	58,385	59,231	71,632
Man-Made Fiber Fabrics, Except Rayon and Acetate	238,061	235,961	224,998
Silk and Other Broad Woven Fabrics, not Elsewhere Classified	10,800	9,822	12,686

U.S.D.A. Research Contract For \$38,000 Awarded To N. C. State Textile School

North Carolina State College School of Textiles has been awarded a \$38,000 research contract by the U. S. Department of Agriculture to evaluate data dealing with cotton fiber properties and spinning performances as affected by ginning treatments.

The project will be administered by the college's department of Textile Technology headed by Prof. E. B. Grover and will be under the direction of Prof. J. F. Bogdan.

Realizing that the possible misuse of cotton ginning equipment sharply reduces the spinning and weaving performance of cotton, the U.S.D.A. undertook a series of controlled ginning experiments to investigate the effects of various changes in fiber properties. The results of a wide variety of physical tests performed on cotton from three area studies at the U.S.D.A. Cotton Quality Research Laboratory in Clemson, S. C., comprise the data to be investigated.

In addition to the development of guides to better ginning practices, the investigation will be concerned with a compre-

hensive analysis leading to the development of a mathematical description of the Suter-Webb length array curve and recommendations regarding the size and number of tests to be conducted in the future for statistical reliability.

Freudenthal Named President Of Textile Quality Control Association

Ernest G. Freudenthal, Werthan Bag Corp., Nashville, Tenn., has been named president of the Textile Quality Control Association, succeeding William H. Esslinger of M. Lowenstein & Sons. Robert V. Miraldi, Washington, D. C., was named secretary-treasurer of the group.

Elected directors of the T.Q.C.A. were: Phillip Lipe Jr., Park Yarn Mills, Kings Mountain, N. C.; Gus Guggenheim, The Kendall Co., Charlotte, N. C.; Horace Buchanan, Er-langer Mills, Lexington, N. C.; J. K. Waits, Joanna Cotton Mills Co., Joanna, S. C.; and Eugene Cross III, Cross Cotton Mills, Marion, N. C.

The association has scheduled its Fall meeting for October 5-6 at the Sedgfield Inn, Greensboro, N. C.

National Cotton Council Sets Program For Marketing-Research Clinic May 16-17

The National Cotton Council has announced the tentative program for its cotton marketing-research clinic to be held May 16-17 at the Peabody Hotel in Memphis, Tenn. In the past the marketing and research meetings were held separately but they have been put together this year to reflect the close kinship between these two problem areas.

Following is the tentative technical program.

TUESDAY, MAY 16

Morning

- 9:15 "The Influence of Fiber Properties on Manufacturing Performance,"** Dr. Ludwig Rebenfeld, Associate Research Director, Textile Research Institute, Princeton, N. J.
- 9:40 "A Cotton Producer Views Fiber Measurement,"** R. S. Barnett Jr., Elms Printing Co., Altheimer, Ark.
- 10:10 "Producing Cotton to Meet Mill Demand for Fineness,"** Early C. Ewing Jr., Director of Research, Delta & Pine Land Co., Scott, Miss.
- 10:30 "Fiber Needs in Manufacturing,"** Joe L. Delany, General Superintendent, Joanna Cotton Mills Co., Joanna, S. C.

Afternoon

- 2:00 Where We Are In Measuring:**
"Length and Strength," John D. Tallant, Associate Physicist, Southern Utilization Research and Development Division, A.R.S.-U.S.D.A., New Orleans, La.
"Color and Trash," Harvin R. Smith, Cotton Marketing Specialist, Cotton Division, A.M.S.-U.S.D.A., Washington, D. C.
- 3:00 "Production Line Fiber Measurements in Merchandising,"** Dan Davis, General Manager, Plains Cotton Cooperative Association, Lubbock, Tex.
- 3:25 "Use of Fiber Instruments in Point Buying,"** Joseph M. Leahy, Volkart Bros., laboratory

department, New Orleans, La.

WEDNESDAY, MAY 17

Morning

- 9:00 "Quality Preservation in Harvesting and Ginning," Alfred M. Pendleton, Agricultural Engineer, Federal Extension Service, U.S.D.A., Dallas, Tex.
- 9:20 "Moisture Control in Ginning," A. C. Griffin, Physicist, U. S. Cotton Ginning Laboratory, A.R.S.-U.S.D.A., Leland, Miss.
- 10:00 "Gin Machinery and the Modern Cotton Industry," A. L. Vandergriff, President, Continental Gin Co., Birmingham, Ala.
- 10:20 "Comparative Quality Changes in Bale and Samples During Storage," C. Curtis Cable Jr., Agricultural Economist, Marketing Economics Research Division, A.M.S.-U.S.D.A., Tucson, Ariz.

Afternoon

1:30 Panel: What's Going on in Fiber Evaluation Research?

Moderator: Dr. Burt Johnson, National Cotton Council, Memphis, Tenn.

Participants: Hugh G. Neil, President, Special Instruments Laboratory, Knoxville, Tenn.; Glenn Witts, President, Motion Control Inc., Dallas, Tex.; Lester P. Berriman, Supervisor, Chemical Engineering, Stanford Research Institute, South Pasadena, Calif.; Dr. Philip Ewald, Head, U.S.D.A. Spinning Laboratory, University of Tennessee, Knoxville, Tenn.; and Edward H. Shanklin, Field Station Leader, Cotton Quality Research Station, A.M.S.-U.S.D.A., Clemson, S. C.

Are You Effectively Controlling Waste?

(Continued from Page 53)

manufacturing cost figures and waste sales prices in your calculation.

When you have this knowledge, pass it along to other supervisors and to your employees. Let them know how excessive waste affects cost and your plant's position in the competitive economy. Make them conscious of the value of waste, and of the advantages of reducing it. Sell them on the importance of waste reduction. Try to make it a team effort in each department.

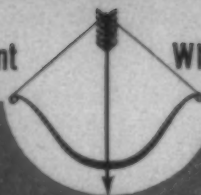
We also recommend the study of each classification of waste in your plant as a separate problem. Find out the causes of each type of waste, and try to correct these causes. We believe that this problem is large enough to justify such painstaking attention.

After careful study of each waste category, determine what a reasonable, practical standard for that waste should be. Set goals for yourself and your people. Keep them informed of the progress of your program. Review your goals periodically, and adjust them to make them realistic and workable.

This type of approach can reduce your waste. It can save your companies thousands of dollars each year. We know that it can—for we have seen it done in over 450 mills in the U. S. and United Kingdom. We have seen cost reductions through waste control mean the difference in getting or losing orders in competitive markets.

"What You Want

When You Want It"



WONALANCET

PERUVIAN COTTON

Tanguis Pima Karnak

WONALANCET COMPANY

3240 Peachtree Road, N. E., Atlanta, Georgia
and 128 Burke Street, Nashua, New Hampshire



BURKART-SCHIER CHEMICAL CO. CHATTANOOGA, TENNESSEE

MANUFACTURING CHEMISTS FOR THE TEXTILE INDUSTRY

CLARK'S WEAVE ROOM CALCULATIONS

...can be of much assistance to mills changing over from
other constructions to bag osnaburg and bag sheeting.

CLARK PUBLISHING COMPANY

P. O. Box 1225 - - - Charlotte, N. C.



**Do YOU also want to modernize
or extend your *Drawing*
with the most modern frame in production?**

This installation has been setting production and efficiency records for a year. Many new mill installations such as this one are going up in various countries: United States, Great Britain, Germany, Italy, Spain, France, India, Argentina, etc.

The outstanding SACM Drawing Frame attracted abundant interest and favorable comments at recent Textile Machinery Exhibitions, and was hailed as a forerunner of modern textile machinery design, unequalled for

HUMAN EFFICIENCY • FRAME EFFICIENCY • SLIVER QUALITY

Why not look into it now?

You will be surprised by the low investment and operating cost of effective hourly production, and by the huge savings in floor space. Ask for information and arrange to see a demonstration.

**Société Alsacienne de Constructions Mécaniques
Mulhouse, France**



SALES AND SERVICE IN THE U.S. AND CANADA BY THE
MEDLEY MANUFACTURING COMPANY
400 32nd St., Columbus, Georgia

PERSONAL NEWS



Martin

J. Carlisle Martin has joined Roberts Co., Sanford, N. C., as a special representative in the technical sales department. Prior to joining Roberts, he served five years as vice-president and general sales manager of Meadows Mfg. Co. of Atlanta, Ga. He also was employed in various sales capacities for 36 years with the H & B American Machine Co., Pawtucket, R. I. At the time of that company's liquidation in 1952 he was vice-president and general sales manager, and before that was representative in charge of H & B's Southern territory and Atlanta office from 1929 until 1949. Martin also was employed for 1½ years with the Whitin Machine Works in the Georgia-Alabama-Tennessee territory, and has several years experience in various departments of several cotton mills.

Harry P. Sheets has been appointed cotton buyer and manager of the cotton department for Fulton Cotton Mills, Atlanta, Ga. Sheets has been actively engaged in the cotton business since 1945. His previous employment was with C. D. Tuller & Co. and the Cotton Producers Association, both headquartered in Atlanta. He is a director of the Atlanta Cotton Exchange.

Wade F. Denning, retired vice-president of Wiscasset Mills Co., Albemarle, N. C., has been named to the board of directors for the Oakboro (N. C.) Cotton Mills Co. Other officers include M. B. Foil Jr., vice-president; William H. Taylor, vice-president and general manager; and J. W. McKay, secretary.

J. Mack Cheatham, president of the American Cotton Manufacturers Institute and Dundee Mills, Griffin, Ga., has been named Griffin's Man of the year. Cheatham was elected for the award by the presidents of various civic organizations in the town.

Carlisle (S. C.) Finishing Co., a subsidiary of Cone Mills Corp., has announced several personnel changes. Joseph Morrissey has been named manager of the company. He was formerly administrative assistant to the general manager. Lee Hunter, formerly assistant superintendent of the plant, succeeds J. G. Boyd, superintendent, who has retired. Kelly Blanton was named assistant superintendent. John Yarbrough was named superintendent of printing; Nathan Lufkin, assistant superintendent of printing; and Francis Lewis, overseer. William Taylor, general office manager, was given responsibility for customer

relations. William H. McCall has been made chief cost accountant. Nelson Graham was promoted to overseer of developing. George Bennett, Thomas Alfred and James D. Arnette have been named shift superintendents.

Walter E. Brewer has been named to the newly created post of general sales manager for the industrial division of Nopco Chemical Co., Newark, N. J. Since 1959, Brewer has been sales manager for Nopco's textile fiber department and the firm's Jacques Wolf & Co. subsidiary. He joined Nopco in 1936 as a control chemist, subsequently serving as sales representative in the New England and Pennsylvania areas. In 1955 he became sales manager for Nopco's textile chemicals and textile fiber departments.

L. G. Hardman Jr., president and treasurer of Harmony Grove Mills Inc., Commerce, Ga., has been elected to the Athens, Ga., advisory board of the Citizens & Southern National Bank. He is also president of the First National Bank in Commerce and vice-president of the Commerce Building and Loan Association.

Frederick Bissinger, president of Industrial Rayon Corp., Cleveland, Ohio, has been elected president of Tyrex Inc., New York City, an association of Tyrex rayon tire cord producers. Bissinger succeeds I. Rogosin, who recently retired as president and chairman of the board of Beaunit Mills Inc., New York City. Other officers elected were: Philip B. Stull, chairman of the board and president of American Enka Corp., Enka, N. C., vice-president; Hasting W. Baker, secretary and treasurer of Beaunit Mills Inc.; treasurer; Philip E. Robinson continues as executive secretary of the association. Irwin S. Meltzer, newly elected president of Beaunit Mills Inc., has been appointed to the board of directors, succeeding Rogosin.

Dr. J. W. Weaver has been appointed manager of the central laboratory at Cone Mills Corp., Greensboro, N. C., succeeding the late Dr. Fred S. Perkerson. Weaver joined Cone in January 1960 from Koppers Co. Inc., Pittsburgh, Pa. Previously he was with the Southern Regional Research Laboratory of the U.S.D.A. in New Orleans. He is a member of the American Chemical Society, American Association for Advancement of Science and the American Association of Textile Chemists & Colorists.

Charles W. Allen has announced his resignation as secretary and general counsel for the Callaway Mills Co., LaGrange, Ga., effective June 30, 1961. He will join the staff at LaGrange College in the department of

business administration beginning with the Fall quarter this year. Allen has been a director of the company since its inception in 1947 and secretary and general counsel since almost the same time. He also served the company's predecessor corporation, Callaway Mills, in a legal capacity.

Thomas J. Vereen, vice-president and treasurer of Moultrie (Ga.) Cotton Mills, has assumed the duties of H. A. Hutchins, retired vice-president of manufacturing for the Riverside Mfg. Co. Hutchins has been in charge of manufacturing for the past 35 years and although in declining health for the last five has been semi-active.



Cranshaw

Edward Cranshaw has been appointed to the position of manager of sales and service in Draper Corp.'s new doffer division. Previously with the Dixon Corp. as vice-president in charge of sales and manufacturing, Cranshaw began his new duties with Draper on April 1. Draper recently acquired patent, manufacturing and marketing rights to the Treufus Automatic Doffing Machines for the U. S. and Canada and plans to make first units available for filling spinning frames.

A. James Johnston Jr. has been appointed assistant to the manager of organic chemicals section, Solvay Process Division, Allied Chemical Corp., New York City. A graduate of Temple University, Johnston joined Solvay in 1953 as a salesman at the St. Louis branch and was assigned to the Charlotte, N. C., area in 1957. In his new position, he will work primarily with Solvay's chloromethanes, chlorobenzenes, aluminum chloride, hydrogen peroxide and vinyl chloride.

J. P. Stevens & Co., New York City, has announced the retirement of one of its officers and the naming of three new men as vice-presidents. John M. Hughlett, vice-president and director of merchandising and sales for the women's wear woolen and worsted division, has retired from the company because of his health. Before joining Stevens, Hughlett was vice-president and general sales manager of Dan River Mills Inc., Danville, Va. I. B. Cohen was elected a vice-president of the company. He joined Stevens in 1955 and has been responsible for achieving greater merchandising co-ordination within certain areas of the company. Prior to this he was a merchandising vice-president with Burlington Mills. A. W. Anthony, assistant head of cot-

PERSONAL NEWS

ton merchandising and sales for the company, was promoted to vice-president. After joining the company in 1935 as a designer, he held various positions of responsibility with the firm. G. H. Roderick, former assistant secretary of the army, joined Stevens in January 1961 in an executive financial capacity and has been promoted to vice-president. Prior to joining Stevens he had been in charge of financial management for the army.

Gene W. Erwin has been promoted to overseer of carding at the Lily Mills Co., Shelby, N. C. Erwin succeeds Ruffin Self, who has retired from the position.

Two personnel additions and a retirement have been announced by Ciba Co. Inc., Fair Lawn, N. J. Roy D. Wiggins has joined the company's Southern district and will work under E. Pierce Ward in the Charlotte, N. C., office. He is a graduate of the University of South Carolina and has done other studies at Clemson College and the University of Cincinnati. Prior to joining Ciba, he was with several chemical and finishing companies.



Wiggins



Gardner

Donald A. Gardner will concentrate his efforts and services in the printing trade. He received his B. S. in chemistry and dyeing in 1949 and was formerly associated with Tillet-Gardner Inc. as treasurer and a member of the board of directors. He will be a technical director with Ciba. A. R. Thompson has retired from the Ciba Co. after more than 27 years. He was headquartered in the Southern district in Charlotte, N. C.

The Du Pont Co., Wilmington, Del., has announced three new personnel changes. Milliard G. Gamble, formerly director of the industrial marketing division in Charlotte, N. C., has been appointed director of marketing services in the company's textile fibers department. His new duties include the general direction of the entire marketing services program, with concentration on women's wear, men's wear, converter relations, chain store relations and advertising and promotion.

He replaces Henry C. Froehling, who has been appointed to a newly created position of general direction of the entire marketing services. Froehling will direct market research, fabric development, sales training and other internal services. Howard P. Brokaw, manager of the rubber industry marketing section with headquarters in Akron, Ohio, has been named acting director of the division, replacing Gamble. Brokaw began his association with Du Pont in 1939 as a chemist. He was named to the textile fibers department in 1948, and became manager of the rubber marketing section last year.

Winston Garth has been named director of personnel for the cotton division of the three Pacolet Mfg. Co. plants located in Gainesville and New Holland, Ga., and Pacolet, S. C. In addition, he will be assistant to the treasurer, handling special projects. . . . David W. Johnston will become plant manager of Pacolet's Gainesville plant, succeeding Garth.

George L. Boll, assistant controller of Wellington Sears Co., New York City, has been elected chairman of the Financial Group of The Association of Cotton Textile Merchants of New York. Boll succeeds Herbert A. Lisle, secretary-treasurer, Iselin-Jefferson Co., New York City. Prior to his association with Wellington Sears he was with J. P. Stevens & Co. and Dan River Mills.

Miss Dorothy Nickerson, color technologist, cotton division, agricultural marketing service, U.S.D.A., has been named the third recipient of the Godlove Award of the Inter-Society Color Council, New York City. The award is a plastic prism incorporating a gold diffraction grating that produces all the colors of the spectrum. The words "Art, Science and Industry" are engraved on the face of the award. Miss Nickerson is known for the color standards she perfected for classing cotton. She is also known for her work on light sources for color grading and the Nickerson color fan.

Dr. Alfred E. Brown, former vice-president has been elected president of Harris Research Laboratories Inc., Washington, D. C. He continues as director of research of the company, which he joined in 1945. The Harris Co. performs research and development for the textile and fiber industries.

Dr. Elwood F. Booth Jr. has been named director of research for Solvay Process Division of Allied Chemical Corp., New York City. Dr. Booth succeeds Dr. Herbert C. Wohlers, who has been transferred to Allied Chemical's National Aniline Division as

director of research and development. He joined Solvay in 1951 and has been assistant chief engineer and assistant manager of Solvay's Syracuse, N. Y., plant. Earlier this year he was named an assistant director of research.



Flowe

C. State College with a B. S. in textiles.

Ira L. Dowdee, formerly associated with the National Starch & Chemical Corp., has been named sales and technical representative for the Chemical Processing Co., Charlotte, N. C.

Carl W. Borden, manager of the Chattanooga (Tenn.) Du Pont nylon plant, has been appointed chairman of the 1961 United Fund-Red Cross campaign in that city. He has been active as a member of the board of the fund and has served as new employee enrollment chairman. He was assigned to the Chattanooga plant in 1954, transferred to the Kingsport plant in 1956, sent to Wilmington, Del., on a special assignment and returned as manager of the plant in 1959.

Callaway Mills Co., LaGrange, Ga., has announced three major reassignments in its top executive officials. Arthur B. Edge Jr. was named president of Callaway Mills Inc., sales subsidiary of Callaway Mills Co. He will direct all domestic sales and customer service. R. D. Williams Jr., formerly president of Callaway Mills Inc., will continue as a vice-president of the parent company and also is assuming the presidency of Callaway Products Inc. and Servaround Leasing Corp. Fuller E. Callaway Jr., former chairman of the board, succeeds Edge as president of Callaway Mills Co.

Burlington Industries Inc., Greensboro, N. C., has announced several changes in administrative officials. Charles F. Myers Jr. and Stephen L. Upson were elected executive vice-presidents and re-elected treasurer and general counsel, respectively. Myers joined Burlington in 1947 and was elected to the board of directors in 1955. Upson joined the firm in 1939 and has been general counsel and secretary since 1947. Henry E. Rauch was elected senior vice-president and re-elected controller. He joined the company in 1951 and was named controller in 1952. Rauch was promoted to the board of directors in 1953. Douglas M. Orr, formerly assistant secretary and assistant general counsel, was elevated to secretary and associate general counsel. Orr joined Burlington in 1945 and in 1946 was named assistant secretary. He is a graduate of the Harvard Law School. William S. Markham Jr. and John B. Cave, both assistant treasurers, were named assistant vice-presidents. Markham joined the company in 1946 and was named to head its financial services department in 1952. He serves also as executive director of the Burlington Industries Foundation. Cave joined

KNIT DYE TUBING

For 1 1/8" Dye Tubes Our Specialty

Furnished Cut or Uncut—Ample Stocks—Prompt Delivery
Also

Davis Seamless Covered Card Thompson and Scavenger Rolls—
New or Recovered

THE TEXTILE LABORATORIES

P. O. Box 1003 • R. P. Siler, Manager • Phone UN 5-2791
GASTONIA, NORTH CAROLINA

ed Burlington in 1955 and since 1959 has been located at the company's sales and merchandising headquarters in New York City as assistant treasurer. Arthur E. Weiner, formerly assistant vice-president, was promoted to vice-president. He was named to his former post in 1959 after having served in various capacities with the company since 1953.

George A. Bates has joined American Finishing Co., Memphis, Tenn., as assistant to the president. He will make his headquarters in Memphis. Before joining American Finishing, Bates was with the Sayles Finishing Plants of Providence, R. I., in various technical and supervisory capacities. He was appointed plant manager in June of 1958. Bates received his Bachelor of Science degree from the University of Rhode Island.



Whitcomb

Harold W. Whitcomb, president of Fieldcrest Mills, Spray, N. C., has been honored at a luncheon in New York City for his 25 years of service to the company. He was presented a silver pin and a silver-wrapped box of candy at the ceremonies. Whitcomb, president of the company almost since the mills were purchased in 1953, earlier served in various posts of responsibility with Marshall Field & Co., former owners.

William (Bill) Colley has been named plant engineer of the Hillside Plant of Callaway Mills Co., LaGrange, Ga. Colley joined Callaway Mills after graduating from Auburn University in 1960 with a B. S. in Mechanical Engineering. Until his promotion, he had been serving with the company as a trainee. Colley is a member of the American Society of Mechanical Engineers and Pi Tau Sigma.

Daniel W. Bradley, superintendent of weaving and preparation at the Rocky Mount (N. C.) Angle plant of J. P. Stevens & Co., has been named superintendent of weaving at Stevens' Carter plant in South Boston, Va. Other changes include the promotion of David L. Garrett to succeed Bradley at Rocky Mount and L. Darr Shealy Jr. to replace Garrett as general overseer of the weave room in South Boston.

Robert Booth has been elected vice-president of The Kendall Co., Walpole, Mass. Last November Booth was appointed Kendall's director of manufacturing, to succeed John A. Lund, who retired. Associated with the company since 1942, Booth previously was director of manufacturing for the company's fiber products division in Walpole, Mass. His first post with the Kendall Co. was at the Bauer & Black plant of its Chicago division.

Miss Linda Lawless has joined the Private Personnel Service of Charlotte as a counselor. Miss Lawless will work with textile employers in the Southern states.

C. Charles Rendino has joined the textile industries sales division of The Foxboro (Mass.) Co. Rendino was formerly associated with the Sayles Finishing Co. of Rhode Island where he was superintendent of wet processing and finishing. He received his B.

S. degree in textile engineering from the Bradford-Durfee Institute of Technology and is a member of the American Association of Textile Chemists & Colorists and the Phi Psi fraternity.



Sayers

Vernon Mills Inc., headquartered in Baltimore, Md.

C. Ross Beall has joined Cowikee Mills as superintendent at its No. 1 mill in Eufala, Ala. Beall was formerly connected with West Point Foundry & Machine Co. in a sales capacity. Prior to that he was with Opp-Micolas Mills in Opp, Ala., as training supervisor. For 12 years he was overseer of weaving at Dixie Mills, LaGrange, Ga.

Edward F. Skinner, vice-president of Meinhard & Co., a factoring firm in New York City, has left for Europe where he will meet Meinhard's European representative in Zurich, Switzerland, and visit several textile mills in France.

Correction

Earl W. Starnes, vice-president, research, of Starnes Planetary Spinning Systems Inc., was incorrectly identified in our March BULLETIN as being "formerly with Russell Mfg. Co." We are informed that Mr. Starnes is still very much with Russell Mfg. and offer our sincere regret for having so summarily dismissed him from the company.

OBITUARIES

Barrie Bascom Blackwelder, 76, chairman of the board of directors of Quaker Meadows Mills, Hildebran, N. C., died April 13 at his home in Hickory. Blackwelder served for a time as vice-president of Granite Falls Mills and was later head of the Shuford group. In 1941 he organized Quaker Mead-

ows and served as its head until two years ago when he was named chairman of the board.

Cason J. Callaway Sr., 66, former head of Callaway Mills at LaGrange, Ga., died April 12 after an illness of several weeks. Mr. Callaway retired from active direction of the mills in 1938 and for the past several years had spent most of his time at his home in Blue Springs, Ga. He had been a member of the board of directors of the U. S. Steel Corp., the Trust Co. of Georgia and the Chemical Corn Exchange Bank & Trust Co., New York City.

John Land, 56, president of Textiles Incorporated and its subsidiary, Threads Incorporated, Gastonia, N. C., died April 12 after a long illness. Mr. Land joined the 11-unit organization in 1940 as secretary and treasurer of Threads Incorporated. In 1944 he was named vice-president and treasurer and in 1959 was named president of Textiles Incorporated. Mr. Land became president of Threads Incorporated in 1960. In his textile career he had been associated with many textile mills including: Hermitage Cotton Mills, Camden, S. C.; Kendall Mills, Paw Creek, N. C.; Thread Mills Inc., Monticello, Ind.; Cotton Threads Co. and Gordon Thread Co., both in Chicago; and Eastern Thread Mills and W. Warren Thread Works Inc., both in New York City. He was a director of the North Carolina Textile Manufacturers Association. Surviving are his widow and a son.

Norman Leeds Jr., 59, assistant general manager of the Raybestos division of Raybestos-Manhattan Inc., Stratford, Conn., died March 12. Mr. Leeds joined the Raybestos division in 1926 and held various positions of authority. He was elected to the board of directors in 1955. Mr. Leeds is survived by his wife and a daughter.

Clarence L. Meyers, 75, founder and chairman of Clarence L. Meyers & Co., Philadelphia, Pa., died recently in Miami Beach, Fla. Starting the business in 1903, Mr. Meyers was active in it up until the last two years. He was also one of the founders and one of the directors of the Durene Association. He is survived by a daughter.

William Lee Robinson, 59, secretary and treasurer of Parkdale Mills Inc., Gastonia, N. C., died April 1. Mr. Robinson joined Parkdale Mills in 1931 as secretary and treasurer and held that position until his death. He leaves his widow and one daughter.

"A Dependable Source of Supply"



LEATHER & BELTING COMPANY
GREENSBORO, NORTH CAROLINA
Serving the Mills Over 40 Years

**GREYHOUND
&
BROOKSBANK
Check Straps**

÷

**GREYHOUND
&
MACOAK
Belting**

CANTON, GA.—Canton Cotton Mills Inc. has installed an MP-7 Maxbo shuttleless loom in its plant and currently has it running on 28-29-inch blue denim. The loom has been operated on a laboratory basis for the past five months to check the technical aspects of the fabric being woven. Modifications of the lay, air nozzle and filling had to be made on the loom before being started because it was initially set up for a 35-inch width cloth. Results being obtained from the loom have not been made available yet.

SPARTANBURG, S. C.—Plans have been made for a \$300,000 facility at Beaumont Mills which will include the installation of an undisclosed number of wider Draper looms. The project includes a two-story masonry structure linking Beaumont's two present plants here. Plans are to use more Draper X-3 60-inch looms as replacement for the mill's present 40-inch looms. The addition will not call for the addition of any new employees.

NEW YORK, N. Y.—Sales of Indian Head Mills Inc. in the three months ended March 4, 1961, increased to \$19.7 million from \$13.5 million in the comparable period a year earlier. The sales increase was due to the acquisition of five companies since the first quarter last year. Net profit of the diversified textile manufacturing and service organization rose to \$641,767 from \$607,969 in the comparable period last year. The company reports that operating profit was down substantially with the slight increase in the total net profit resulting from non-operating profit of \$331,000 realized from the sale of fixed assets and turnover of inventory acquired at a discount.

MEXIA, TEX.—Mexia Textile Mills is installing new drawing and spinning frames from Whitin Machine Works. The machinery consists of four Model M6A Even-Draft drawing frames having a speed of 500-600 f.p.m. These are four delivery frames, making a total of 16 deliveries in all. In addition, 23 Whitin Model N spinning frames, 288 spindles, 4" gauge, 27" wide, being supplied for a modernization program in the spinning room.

SYLACAUGA, ALA.—Avondale Mills has ordered two sizable installations of Superflex Model F5 spinning frames from Whitin Machine Works. Some 35 288-spindle, 4" gauge frames, 36" wide, are being supplied to the company's Catherine plant in Sylacauga. And 21 Model F5 Superflex frames, 240 spindles, 4" gauge, 36" wide, are being supplied to the Pell City, Ala., plant. Both installations represent mill modernization projects and the new machinery is to replace older machinery now being taken out of production.

NEW YORK, N. Y.—M. Lowenstein & Son reports a 1960 net profit of \$5.2 million against \$4.8 million for 1959. Net sales were \$253.3 million for 1960 compared with \$259.7 million during the previous year. In a joint statement to stockholders,

Leon Lowenstein, board chairman, and Everett C. Drake, president, said, "During the last quarter of 1960 and the early part of this quarter, our industry experienced reduced profit margins and a slowing up of new business. We are happy to report that since the middle of January our new business has been better and we feel that this favorable trend will continue."

NEENAH, WISC.—The Kimberly-Clark Corp. has announced that it will purchase Robertson Bleachery & Dye Works Inc., New Milford, Conn., for nonwoven fabric development by its subsidiary Kimberly-Stevens Corp. The acquisition of the plant will be for cash, however, the amount was not disclosed. When fully developed, the plant will serve in the manufacture of new products.

GAFFNEY, S. C.—Plans for a projected \$3 million printing, dyeing and finishing plant near Gaffney, which were announced recently, have been delayed indefinitely. Kahn-Southern, construction management specialists, of Columbia, reports that the project has been postponed because of the unsettled outlook in the textile industry and the problem of foreign competition. The project has not gone beyond the site planning and design development state. The identity of the interests backing the project has not been made known.

TUXEDO, N. C.—The J. P. Stevens plant here has finished adding some 7,000 square feet of manufacturing space and 4,000 square feet for the installation of a new plant-wide air-conditioning system. New machinery is to be added and existing machinery modified to increase the plant's present rate of cotton yarn production. The job level is to remain the same. New machinery and modifications are scheduled to be in operation by October or November, while the air-conditioning system is to be ready by June 15.

TRION, GA.—The Trion Division of Riegel Textile Corp. is planning the construction of a new two-story and basement

addition to its plant to be located in the Plaza area. The addition is a part of the tentative program of expansion which will create 111,000 square feet of space. The new building will house looms from the present No. 3 weave room and that area will be utilized as an opening room. The relocation of the opening room, in turn, will free space in the warehouse for additional cotton storage. The Trion Division employs some 2,900 persons.

COLUMBUS, GA.—The Swift Mfg. Co. plant here lost a day of work recently when a high-pressure steam line ruptured.

CLOVER, S. C.—Modernization has begun on American Thread Co.'s plant here and is expected to cost more than \$500,000. Contracts have been let for new spinning machinery and cleaning gear to Whitin Machine Works, Whitinsville, Mass., and Pneumafil Corp., Charlotte, N. C. Modernization is in the works for the other two American Thread plants here over the next four years. The company said that it feels strongly that a high quality, low cost mill will be able to survive the fierce competition in the textile industry.

SYLACAUGA, ALA.—Avondale Mills has purchased in excess of 95% of the outstanding stock of Pepperton Cotton Mills Inc., Jackson, Ga. Pepperton's basic machinery consists of 17,000 spindles and 500 looms, manufacturing drapery material, tablecloths, napkins, and other specialties. The former owners of the mill have installed modern machinery and have kept the property in excellent condition. Avondale plans to spend a substantial sum to further improve quality and reduce unit cost.

NEW YORK, N. Y.—Clark-Schwebel Fiber Glass Corp. has started production of glass fabrics at its new \$3.5 million fiber glass weaving and finishing plant in Anderson, S. C. This 163,000-square-foot plant is designed and built exclusively for glass fabrics and equipped solely with new machinery engineered specifically for fiber glass weaving and finishing. It is completely



Carolina Brush Co.

Manufacturers — Designers — Repairers

Textile Brushes

CHARLOTTE, N. C.

P. O. Box 3387

ED 2-5839

GASTONIA, N. C.

P. O. Box 588

UN 5-2422



Duke Power's Allen Plant represents an investment of over \$100 million. Its capacity of 1,125,000 kilowatts is adequate to supply electric power for more than 1/2 of the entire Textile Industry in the United States.

COME SEE THE ALLEN PLANT

- ★ . . . a fourteen-story structure in which just one of the turbines produces enough dependable power to supply a city of 300,000 people.
- ★ Coal, taken from a 500,000-ton pile, is pulverized to the fineness of flour and burned by furnaces at a rate of 7 tons per minute.
- ★ Steam condensers pass 33,000,000 gallons of water per hour, enough to supply the largest city in the Carolinas for a whole day.

Our most modern steam electric power generating plant, largest in the Southeast, is one of many good reasons why in the Piedmont Carolinas you will find as much power as you need, when and where you need it. We welcome you any time to drive out and tour our Allen Plant on the Catawba River near Belmont, N. C., 15 miles from Charlotte.

DUKE POWER COMPANY
Serving the Piedmont Carolinas

MILL NEWS

air-conditioned and humidity controlled, and located on a 20-acre site for future expansion purposes. The plant includes research and development facilities and a plastics laminate testing laboratory. Total employment planned by the end of this year is approximately 400. Clark-Schwebel will produce a complete range of fiber glass fabrics and woven glass roving.

LEWISTOWN, ME.—Bates Mfg. Co. has reported 1960 sales totalling \$35.8 million and net earnings, including special items, of \$1.1 million. These results compared with sales of \$38.2 million and total net earnings of \$1.3 million during 1959. A. Phillip Goldsmith, president, said: "The reduction of sales and earnings reflects a downturn in the national economy, the lessening of demand for textiles and the continuing imports which are so disadvantageous to our industry."

GREENSBORO, N. C.—Operations and sales for Burlington Industries are running 10 to 15% behind the figures for 1959. The bulk of Burlington's operations are on a five-day week, with some only working four days. The company reports that its policy of limited inventory is still in effect and inventory in its plants is essentially the same as at the first of the year. Spencer Love, president, said "The textile industry cannot afford the luxury of overproduction. Market prices are already depressed because of foreign competition and every yard of goods produced beyond what the market requires places an unbearable strain thereon."

ROANOKE, VA.—The long-idle Roanoke plant of American Viscose Corp. is being sold to a group of local businessmen. The purpose for which the plant will be used was not disclosed. The plant opened in 1917 and at the time of its closing in 1958, employed some 1,750 persons. Peak employment had been approximately 5,000.

NEW YORK, N. Y.—Officers and directors of M. Lowenstein & Sons received an aggregate remuneration of \$1.9 million in 1960. Leon Lowenstein, chairman of the board, received \$75,000. Donald Tansill, who resigned as chairman, also received \$75,000. Everett C. Drake, president, re-

ceived \$85,000. Other officers and directors received: Edward Goldberger, treasurer and secretary, \$75,000; Robert Bendheim, executive vice-president, \$75,000; John M. Bendheim, vice-president, \$42,000; William H. Grier, president of subsidiary printing and finishing companies, \$75,000; Joseph J. Lyons, president of subsidiary greige goods companies, \$75,000; and Philip Feismusch, executive vice-president in charge of merchandising, \$75,000.

GAINESVILLE, GA.—The Gainesville plant of Pacolet Mfg. Co. has chalked up 1 million man hours without a lost time accident. The million hour mark was reached at 11 p.m., April 5. The attainment of the record set off a free coffee and cold drink day at the plant.

PRINCETON, N. J.—The Milltown plant of Chicopee Mfg. Corp., New Brunswick, N. J., has won the Governor's Safety Award for having accomplished some three million man-hours without a single lost-time accident. It took approximately 5½ years to compile the record. This plant is only the 17th that has received the award out of more than 14,000 participating firms in the past ten years.

GRANTVILLE, GA.—Applied Fiber Co., a newly organized firm, has leased 29,000 square feet of floor space here for the production of industrial sewing thread. The new operation is headed by Fred Montgomery Jr., who also heads Pisgah Mills, Brevard, N. C., and Tidal Marsh Products Co., Dale, S. C. The leased property has been used by Electro Mills which is moving to Newnan, Ga., for expanded operations. Applied Fiber is already installing machinery for an initial pilot sampling operation in carding, spinning, twisting, dyeing and winding. Pilot production is expected to begin about May 1.

BOSTON, MASS.—The Kendall Co., Walpole, Mass., has announced sales of \$111.6 million and earnings of \$5.1 million for 1960. The company reports that it is aiming at business growth in 1961 through an expanded sales organization and recent increases in expenditures for advertising and sales promotion as well as for research and development. Richard Higgins, president, said that the company has the opportunity to increase sales volume in 1961 in practically all parts of its business. He said,

"Shipments to date this year have been running slightly ahead of a year ago, although economic conditions have not been as favorable."

GASTONIA, N. C.—Textiles Incorporated has purchased 16 high production combers and 32 deliveries of Saco-Lowell 3 over 4 Versa-Matic drawing frames. The equipment will be installed in the Arlington plant, company officials said, and represents a portion of the firm's continuing modernization program.

FAYETTEVILLE, TENN.—The Elk Cotton Mills, Fayetteville, and Brower Mills Inc., Hope Mills, N. C., have completed their planned merger by the exchange of stock. The merger was a prelude to the modernization of Brower Mills with expenditure of some \$500,000 anticipated. Elk Mills has some 22,600 spindles and Brower Mills has another 10,000.

PHILADELPHIA, PA.—Two contracts have been let by the Military Clothing & Textile Supply Agency, Philadelphia Quartermaster Center for cotton sateen cloth weighing 8.8 ounces per square yard, being OG 107 and 40-inch widths. Companies, lengths and total price are as follows: J. P. Stevens & Co., New York City, 5,000,000 linear yards; \$2,722,280; Riegel Textile Corp., New York City, 3,000,000 linear yards, \$1,625,580.

HARTSVILLE, S. C.—The employees of USF-Arnold Finishing Co., a division of Indian Head Mills Inc., have voted 118 to 90 against representation by the United Mine Workers of America. The election was the result of the setting aside of a previous election held in January by the regional director of the N.L.R.B. Prior to this election there had been two others that ended in dispute. The Mine Workers Union has been the bargaining agent for the past two years. Before this, the United Textile Workers had represented the plant for 12 years. The new elections were the result of the textile union trying to regain representation.

NEW YORK, N. Y.—Aggregate 1960 remuneration paid to eight officers and directors of Dan River Mills Inc. has been announced. William J. Erwin, president, received \$100,490; and Frank Talbott Jr., chairman of the board and general counsel was paid \$50,000. A. B. Emmert and Harry M. Ferguson, vice-presidents, received \$72,600 and \$65,000, respectively. Floyd W. Jefferson Jr., director of Dan River and president of Iselin-Jefferson Co., was paid \$75,390. Jarvis Cromwell, Dan River director and president of Iselin-Jefferson Financial Co., received \$62,045. Oliver Iselin Jr., first vice-president of Iselin-Jefferson Co. and a Dan River director, received \$60,390. Floyd W. Jefferson, board chairman of Iselin-Jefferson and a director of Dan River was paid \$40,245. Total remunerations were \$526,160.

KANNAPOLIS, N. C.—Cannon Mills Co. and subsidiaries recorded a 27.8% increase in net profits and a sales decline of 3.4% for 1960. Figures given show net profits of \$13.1 million on sales of \$202.9 million for 1960 compared with \$10 million profit on sales of \$210.2 million for the previous year.



**The
BEST for
37
years**

PRECISION

LOOM REEDS

Greensboro Loom Reed Co., Inc.

Greensboro, N. C.

Textile Industry Schedule

For additional data (reservation requirements, membership requirements, program details, etc.) on activities listed here, contact name(s) shown in parentheses.

May 4-5 (Th-F)—Thirteenth annual conference, Textile Industry Committee, American Institute of Electrical Engineers, Heart of Atlanta Motel, Atlanta, Ga. (Robert I. Uhl, Manager, Service Division, West Point Mfg. Co., Langdale, Ala.)

May 5-6 (F-Sa)—58th annual meeting, Phi Psi Fraternity, Shoreham Hotel, Washington, D. C. (A. Henry Thurston, 4515 Dexter St., N. W., Washington, D. C.)

May 10-12 (W-F)—Thirty-first annual North Carolina Statewide Industrial Conference, Jack Tar Hotel, Durham, N. C. (H. S. Baucom, Director, N. C. Industrial Commission, Raleigh, N. C.)

May 11-12 (Th-F)—Annual meeting, Cotton Buyers Division, Georgia Textile Manufacturers Association, Dinkler Plaza Hotel, Atlanta. (Frank L. Carter, Sec., G.T.M.A., Suite 740, 34 Peachtree St., N.W., Atlanta 3.)

May 15-20 (M-Sa)—National Cotton Week, sponsored by the National Cotton Council.

May 16-17 (Tu-W)—Joint meeting, Cotton Research Clinic and the Cotton Marketing Conference, Peabody Hotel, Memphis, Tenn. (National Cotton Council, P. O. Box 9905, Memphis 12, Tenn.)

May 18-19 (Th-F)—Annual meeting, Cotton Buyers and Classers Division, North Carolina Textile Manufacturers Association, Sedgefield Inn, Greensboro, N. C. (Thomas N. Ingram, Sec., N.C.T.M.A., 1008 Wachovia Bank Bldg., Charlotte.)

June 9-10 (F-Sa)—Annual outing, Piedmont Section, A.A.T.C.C., Grove Park Inn, Asheville, N. C. (Sec.: E. P. Lavoie, Morningstar-Paisley Inc., Box 3622, Charlotte, N. C.)

June 22-24 (Th-Sa)—53rd annual meeting, Southern Textile Association, Ocean Forest

Hotel, Myrtle Beach, S. C. (S.T.A., P. O. Box 1225, Charlotte 1, N. C.)

Sept. 14-15 (Th-F)—Annual Outing, Chattanooga, Yarn Association, The Reed House, Chattanooga, Tenn. (Chattanooga Yarn Association, Chattanooga, Tenn.)

Sept. 15-16 (F-Sa)—Fall meeting, Palmetto Section, A.A.T.C.C., Clemson House, Clemson, S. C.

Sept. 21-22 (Th-F)—Fall meeting, Southern Textile Methods and Standards Association, Clemson House, Clemson, S. C. (Howard L. Loveless, Exec. Sec., S.T.M.A.S.A., P. O. Box 10144, Knoxville, Tenn.)

Sept. 23 (Sa)—Fall meeting, Piedmont Section, A.A.T.C.C., Hotel Charlotte, Charlotte, N. C. (Sec.: E. P. Lavoie, Morningstar-Paisley Inc., Box 3622, Charlotte, N. C.)

Sept. 28-30 (Th-Sa)—National convention, American Association of Textile Chemists & Colorists, Hotel Statler, Buffalo, N. Y. (A.A.T.C.C., P. O. Box 28, Lowell, Mass.)

Oct. 14 (Sa)—Fall meeting, South Carolina Division, Southern Textile Association, Clemson, S. C. (Chairman: E. L. Ramey, Inman Mills, Inman, S. C.)

Nov. 8-9 (W-Th)—Chemical Finishing Conference, sponsored by the National Cotton Council, Sheraton Park Hotel, Washington, D. C. (National Cotton Council, Ring Bldg., Room 502, 1200-18th St., N.W., Washington 6, D. C.)

1962

Jan. 11-12 (Th-F)—13th annual Cotton Research Clinic, The Carolina Hotel, Pinehurst, N. C. (National Cotton Council, Ring Bldg., Room 502, 1200-18th St., N.W., Washington 6, D. C.)

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday; (Su) Sunday

SONOCO PRODUCTS COMPANY
CASE HISTORY NO. 2853



PROBLEM: Cones for use in accelerated conditioning of yarn

Equipment which accelerates the cycle of yarn conditioning is an outstanding example of industry progress. However, the introduction of this equipment created two problems. Because of the excessive amount of moisture, cone walls were breaking down and the primary winds were sticking to the cones. To eliminate these problems a cone was required with a surface to which the yarn would not stick and which would withstand the effects of the additional moisture.

Sonoco research solved these problems quickly by proving conclusively that only Unitex Surface cones should be used in this method of processing. Use of this type cone has eliminated the difficulties

first encountered through the use of accelerated cycle yarn conditioning equipment.

Technical service of this type is an added benefit when you buy from Sonoco. *Only Sonoco*, in its field, provides the continuous research, product development and integrated manufacturing needed to meet the ever-changing techniques of the textile industry. Let Sonoco's more than 60 years' experience help you!

SONOCO

Products for Textiles



SONOCO PRODUCTS COMPANY, HARTSVILLE, SOUTH CAROLINA • Mystic, Conn. • Akron, Ind. • Ravenna, Ohio • Lowell, Mass. • Holyoke, Mass. • Phillipsburg, N.J.
• Longview, Texas • Philadelphia, Pa. • La Puente, Calif. • Fremont, Calif. • Atlanta, Ga. • Richmond, Va. • **MEXICO:** Mexico, D.F. • **CANADA:** Brantford, Ont. • Granby, Quebec

textile bulletin

Editor JACK KISSIAH
Associate Editor JOHN V. LAWING
Assistant Editor VICTOR EUGENE LOCKEY
Inquiry & Reader Service JACQUELINE BOYLES

TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, \$1.50; two years payable in advance, \$2.00;

MEMBER: Business Publication Audit of Circulation and National Business Publications Inc.

TEXTILE BULLETIN IS PUBLISHED MONTHLY BY

CLARK PUBLISHING COMPANY

— Offices and Plant: 218 West Morehead Street, Charlotte 6 —
P. O. Box 1225 • CHARLOTTE 1, N. C. • Tel. EDison 3-3173

JUNIOUS M. SMITH President and General Manager
F. R. CAREY Vice-President and Eastern Manager
(P. O. Box 10, Warwick, R. I.—Telephone Williams 1-3957)
MARGARET R. ELLIOTT Secretary-Treasurer
JAMES L. PRENDERGAST Advertising Representative
GEORGE C. FINN Advertising Representative
(271 Valley Rd., Cos Cob, Conn.—Telephone NOrmandy 1-8708,
Greenwich, Conn.)
JAMES W. ROBINSON Circulation Manager
MIRIAM W. SCRUGGS Production Manager
BEN C. THOMAS Field Circulation Representative

one year, Canada, \$3.00; one year, other countries in Postal Union, \$5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

Talk Is Encouraging

SECRETARY of Commerce Hodges, in an exclusive interview for the April 24 issue of *U. S. News and World Report*, spoke even more encouragingly of the prospects for plugging the import dike than he did before the annual meeting recently of the American Cotton Manufacturers Institute in Miami Beach (see page 43).

The published report, which concerned the state of the nation's overall economy and not just textiles, revealed that the special textile subcommittee headed by the Secretary is considering "six or eight ways" the import problem might be approached. Asked if any of the plans were specifically on textiles, Secretary Hodges replied affirmatively.

He did not reveal how quickly the plan under discussion might be either announced or implemented, and it's possible that a disclosure might be made before this reaches print.

Here are abstracts of other comments from the interview:

Q—Are tariffs the answer to imports from low-wage countries?

A—No, I don't think that high tariffs are the answer. . . . You have, in G.A.T.T. (General Agreement on Tariffs and Trade) a discussion on the part of a score or more of nations as to how they can adjust their tariffs as between each other. And you have our own Tariff Commission that operates under the "peril point" rule . . . that is supposed to take care of the relief. Actually, it's a slow and cumbersome process and hasn't done too well, from the standpoint of an industry that's suffering.

Q—How about quotas to limit imports?

A—The most successful situation that has developed on imports . . . has been done by Japan, with its voluntary quota for five years on textile exports to the U. S.

Q—The textile industry says that hasn't worked because other countries have taken advantage of it to send more of their goods in—

A—What they mean is that a voluntary quota by Japan doesn't work for all the world. It has worked for Japan. If you hadn't had it for Japan, the situation would be far worse.

Now if you could get it for Hong Kong and a few other countries and could at the same time wave a wand and say, "No other nation is going to ship us any more," then you could handle all the problems voluntarily.

Actually, I think a realistic, hard-headed person who looked at it would have to agree basically with the textile industry that imports are rising geometrically now so very fast that it's almost difficult to do anything on a voluntary basis.

Q—Do you think one solution would be for the Government, as in the case of depressed areas, to subsidize an industry so it could re-educate its workers and produce other products that aren't competitive with imports?

A—I doubt that it would be the solution for an industry that is as diversified and, as we are saying in Washington, "as proliferated" as the textile industry is, with a thousand or more producing companies. The fact that you had some kind of "adjustment grant" which is being suggested would simply mean some retraining for workers; but, in the long run, the philosophy is that that industry can afford to be liquidated and turned to something else. I don't think that's true of the textile industry.

Q—Is it too big an industry?

A—Too big, too varied and too much of a national need. End of abstract.

Since being named to the Kennedy Cabinet, Secretary Hodges has shown a decided reluctance to talk freely with newsmen on the subject of textile imports. He was extremely cautious and non-committal in his remarks before the A.C.M.I. on March 24, saying only that the Administration would definitely do something about imports. He apologized for having to read a prepared paper to the meeting, and discouraged further probing by the press at that time.

Viewed in this light, his interview with the national weekly might be interpreted to mean that the wraps have been taken off him by the Kennedy Administration now that it has a definite plan of action in its briefcase.

If any welcome news for the industry is forthcoming, suffice it to say it's already long overdue.

Index to Advertisers

-A-			Geigy Dyestuff Div. of Geigy Chemical Corp. 21			Parks-Cramer Co. _____		
Acme Steel Co. _____ 74 and 75			General Asbestos Rubber Div. of Raybestos-Manhattan, Inc. 20			Penick & Ford, Ltd., Inc. _____		
Allen Beam Co. _____			General Dyestuff Co. Div. of General Aniline & Film Corp. _____			Perfecting Service Co. _____		
Allen Co. _____			Georgia-Carolina Oil Co. _____ 24			Perkins & Son, Inc., B. F. _____ 71		
Allied Chemical Corp. (Solvay Process Div.) _____ 3			Gessner & Co., David _____ 77			Philadelphia Quarts Co. _____ 79		
American Cyanamid Co. (Fibers Div.) _____			Graton & Knight _____			Pilot Life Insurance Co. _____ 24		
American Enka Corp. _____ 16			Greensboro Loom Reed Co., Inc. _____ 98			Pneumafil Corp. _____ 80		
American Mollusking Co. _____ 64			-H-			Price Spindle & Flyer Co., Inc. _____ 26		
American Viscose Corp. _____			Haas H.G., Albert _____ 29			-R-		
Anheuser-Busch, Inc. (Corn Products Div.) _____ 55			Hart Products Corp. _____			Radiator Specialty Co. _____ 80		
Antara Chemicals Div. of General Aniline & Film Corp. _____ 105			Herr Mfg. Co., Inc. _____			Raybestos-Manhattan, Inc. _____ 20		
Armstrong Cork Co. _____ 62 and 63			Houghton & Co., E. F. _____			Raymond Service, Inc., Chas. F. _____ 103		
Arnold, Hoffman & Co., Inc. _____			Howard Bros. Mfg. Co. _____			Reiner, Inc., Robert _____ 67		
-E-			-I-			Rhoads & Sons, J. E. _____ 65		
Bahan Textile Machinery Co. _____			Ideal Machine Shops, Inc. _____ 30 and 31			Rice Dobby Chain Co. _____ 66		
Bahnsen Co., The _____ 7			Industrial Coatings, Inc. _____ 28			Ridenhour, Hoyt A. _____ 103		
Barber-Colman Co. _____ 12			Interlock Screw & Bolt Co. _____			Roberts Company, The _____ 4 and 5		
Barco Mfg. Co. _____			Interstate Textile Equipment Co. _____ 103			-S-		
Barkley Machine Works _____ 84			-J-			Saco-Lowell Shops (Replacement Parts Div.) _____		
Bataon Co., Louis P. _____ 2			Jenkins Metal Shops, Inc. _____ 51			Saco-Lowell Shops (Textile Machinery Div.) _____		
Bendix Aviation Corp. (Ellipse Mch. Div.) _____			Johnson Corp., The _____			Seydel-Woolley & Co. _____		
Burkart-Schlier Chemical Co. _____ 91			-K-			Signode Steel Strapping Co. _____		
Butterworth & Sons Co., H. W. _____ 17			Keever Starch Co. _____ 64			Sinclair Refining Co. _____		
-C-			Kirkman & Dixon Machinery Co. _____			Smith Textile Apron Co. _____ 89		
Carolina Brush Co. _____ 96			Klutz Rings, Inc. _____ 82			Societe Alsacienne de Constructions Mecaniques _____ 92		
Carolina Loom Reed Co. _____ 38			-L-			Solvay Process Div. Allied Chemical Div. _____ 3		
Carter Traveler Co. (Div. of A. B. Carter, Inc.) _____ 41			Landis, Inc., Oliver D. _____ 29			Sonoco Products Co. _____ 100		
Celanese Corp. of America _____			Laurel Soap Mfg. Co., Inc. _____			Southern Bobbin Works _____ 103		
Chemstrand Corp. _____			Leesona Corp. _____			Southern Machinery Co. _____ 97		
Clinton Corn Processing Co. _____			Livingstone Coating Corp. _____ 89			Southern Shuttles Div. (Steel Heddle Mfg. Co.) _____ 25		
Cocker Machine & Foundry Co. _____ 10			Long Spindle & Machinery Co. _____			Southern Textile Works _____ 103		
Corn Products Sales Co. _____ 11			Loom Products Co. _____			Staley Mfg. Co., A. E. (Industrial Div.) _____		
Crompton & Knowles Corp. _____ 13			Loper Co., Ralph E. _____ 89			Star Paper Tube Co., Inc. _____ 39		
Cronland Warp Roll Co., Inc. _____ 80			Lubriplate Div. Fiske Bros. Refining Co. _____ 26			Steel Heddle Mfg. Co. and Southern Shuttles Div. _____ 25		
Curtis & Marble Machine Co. _____			-M-			Steel and Tank Service Co. _____ 68		
-D-			Manhattan Rubber Division _____ 20			Stover Co., Charles G. _____ 103		
Dary Ring Traveler Co. _____ 84			Manton Gaulin Mfg. Co., Inc. _____			Strandberg Engineering Laboratories, Inc. _____		
Davis, A. Benson (Ben) _____ 103			McDonough Power Equipment, Inc. (Machine & Foundry Div.) _____			-T-		
Dayco Textile Products Co. _____ 8 and 9			McLeod Leather & Belting Co. _____ 95			Tennessee Corp. _____		
Dickson & Co., Inc., W. K. _____ 103			Mill Devices Co. (Div. of A. B. Carter, Inc.) _____ 41			Tensitron, Inc. _____ 103		
Dillard Paper Co. _____ 35			Mitcham & Co., Harley _____ 82			Terrell Machine Co., Inc., The _____ 42		
Dixon Corp. _____ 89			Moretex Chemical Products, Inc. _____			Textile Apron Co. _____ 82		
Dodge Mfg. Corp. _____			-N-			Textile Laboratories, The _____ 94		
Dolge Co., The C. B. _____			National Aniline Div., Allied Chemical & Dye Corp. _____			Textile Loom Reed Co. _____		
Draper Corp. _____			National Ring Traveler Co. _____			Textile Paper Products, Inc. _____ 23		
Dronsfeld Bros., Ltd. _____ 79			National Starch & Chemical Corp. _____			Textile Shops, Inc., The _____ Back Cover		
Dryden-East Hotel _____ 40			National Vulcanized Fibre Co. _____ 14 and 15			Thomaston Mills _____		
Duke Power Co. _____ 97			N. Y. & N. J. Lubricant Co. _____ 33			Ton Tex Corp. _____		
Du Pont de Nemours & Co., E. I. _____			Nopco Chemical Co. (Jacques Wolf Div.) _____			Trust Co. of Georgia _____		
-E-			-O-			-U-		
Eaton Mfg. Co. (Cleveland Worm & Gear Div.) _____ 27			Owings Co., Richard A. _____ 103			U. S. Ring Traveler Co. _____		
Eaton Mfg. Co. (Dynamatic Div.) _____			-P-			Uster Corp. _____		
Electro-Mechanical Engineering Co. _____ 49			Pabst Brewing Co. _____ 27			-W-		
Extremultus, Inc. _____ 46			-Q-			Watson & Desmond _____		
-F-			Ferguson & Associates, John _____ 103			West Point Foundry & Machine Co. _____ Front Cover		
Fifth Avenue Hotel _____ 36			Fiske Bros. Refining Co. (Lubriplate Div.) _____ 26			White Bearings Co. _____ 47		
Foster Machine Co. (Lindly Div.) _____			-R-			Whitinsville Spinning Ring Co. _____ 6		
Foster Machine Co. _____			-S-			W. L. W. Machine Co. _____		
-G-			-T-			Wolf & Co., Jacques (Div. Nopco Chemical Co.) _____		
Gaston County Dyeing Machine Co. _____ 18 and 19			-Y-			Wonalancet Co. _____ 91		
Gates Rubber Co., The _____			Young Machine Co., F. A. _____					

HANDY SUBSCRIPTION BLANK

Please enter my subscription to TEXTILE BULLETIN for _____ one year at \$1.50 or
two years at \$2.00.

(NOTE: In some cases four to six weeks are required in the processing of a new subscription before copies begin to reach you; please be patient.)

SIGNED _____
POSITION _____
FIRM _____
ADDRESS _____

REMITTANCE ENCLOSED; SEND BILL.
Please Send Money Order or Check as we cannot be responsible for cash.

Mail to TEXTILE BULLETIN, P. O. Box 1225, CHARLOTTE 1, N. C.

TEXTILE JOBS OUR SPECIALTY!

Over 55 Years in Business

THE POSITION YOU WANT may be available right now. The demand for executives is increasing. Salaries are attractive. You are invited to send us your resume in confidence.

THE EXECUTIVE YOU NEED may be listed with us. Employers find our Service helpful and time saving.

Your phone call, wire or letter will bring prompt attention.

Charles P. Raymond Service, Inc.

Phone Liberty 2-8547
294 Washington St. Boston 8, Mass.

BOBBINS — BOBBINS — BOBBINS

Our specialty is good used Automatic Loom Bobbins. We also deal in Twister and Roving Bobbins. Send us samples of what you need or what surplus bobbins you have.

CHARLES G. STOVER COMPANY
West Point, Ga.

W. K. DICKSON & COMPANY, INC.

Consulting Sanitary Engineers

Industrial Waste Treatment,
Water Supply, and Sewerage

Reports, Investigations, Design,
Supervision of Construction

404½ S. Tryon St. Charlotte 2, N. C.

WANTED

Assistant dyer or shift dyer. Experienced in synthetics. Good future with growing concern located in the South. State experience and salary required.

Notify "Personal," P. O. Box 5265
North Charleston, S. C.

SAXI TENSION METERS

Quick Trigger Action

For Yarns, Wires, Rubber, Cords and Tape

American made and serviced, always reliable

TENSITRON, INC., Harvard, Mass.



FOR SALE

1—Whitin Model D Twister, 80 spindles, 7" gauge, 5½" ring, M.D.

38—All stainless steel perforated dye beams, 54¼" x 30" diameter heads, 18" barrel, like new.

18—Sets Foxwell Air Guides, 9" rolls, 30" to 60" width.



**INTERSTATE TEXTILE
EQUIPMENT CO., INC.**

P. O. Box 3371, Charlotte 3, N. C., 375-7792 • Empire State Building, New York 1, P. E. N. 6-0451

Textile Bulletin Board

EMPLOYMENT • SERVICES • EQUIPMENT

Rates: For non-bordered ads—four cents per word, \$1 minimum. For bordered ads—\$5 per column inch. Check or money order should accompany copy. Address all correspondence to Classified Advertising, Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C. June issue closes May 15th.

A. Benson (Ben) Davis

Textile Machinery, Manufacturers
Agent

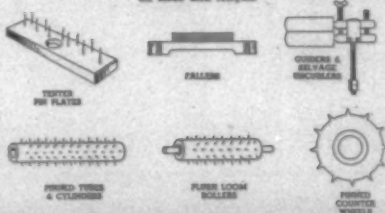
Appraisals and Liquidations
(Sales Agent for Economy Baler Co.)

Phone JA 3-7721

P. O. Box 11112 Charlotte 9, N. C.

NEW & REPINNING

PINS IN STAINLESS, MONEL, PLAIN STEEL
all sizes and lengths



SOUTHERN TEXTILE WORKS

P. O. Box 404 • 202 South Tower St., Anderson, S. C.

HOYT A. RIDENHOUR

"The Spinning Room Man"

Specializing In—Spindles, Bases, Bolsters
Separators, Complete With Fittings

Rings and Holders

Over 1,000,000 Spindle Units in Stock

Phone FRanklin 6-2070

3118 Monroe Road P. O. Box 9057
CHARLOTTE 5, NORTH CAROLINA

WE BUY — SELL — TRADE

RICHARD A. OWINGS CO.

TEXTILE MACHINERY & SUPPLIES

BOX 1774

PHONE CE 9-2236

GREENVILLE, S. C.

TEXTILE SPRAY SYSTEMS

Stainless Steel Pumps for Tints and Emulsions, New Type Misting Nozzles, Oil Spray Pumps. We have over 25 years' experience in all types of spray applications. Contact us for your spray needs.

JOHN FERGUSON & ASSOCIATES

Box 486

LaGrange, Ga

COMPLETE BOBBIN SERVICE

We modify and refinish customers' bobbins. We buy and sell used bobbins, cones, spools, etc. We sell reconditioned bobbins of all types. We furnish new bobbins by leading mfgs. We mfg. all types of specialty wood items.

SOUTHERN BOBBIN WORKS, INC.

200 McKoy St., Greenville, S. C.
P. O. Box 3514 Telephone CEDar 3-2737

BROOMS

The Association of the Blind of
South Carolina

1501 Confederate Ave.

Tel. 6013

Columbia, S. C.

WANTED—Overseer of weaving. Resume on request. Reply to "Box J. R." care Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C.

This issue of TEXTILE BULLETIN . . .

. . . features

Is There Such A Thing As Pessimistic Hope? The Term May Best Describe A.C.M.I.'s Mood At Its Recent Annual Meeting In Miami	43
Nonwoven And Shuttleless Looms Discussed At A.S.M.E. Textile Conference Watch For Tremendous Growth In These Fields In The Future, Speakers Tell Conference Members	48
Are You Effectively Controlling Waste? An Expert Shows You How To Reduce Unit Cost By Controlling All Three Forms Of Waste By James I. Teat	52
Check Your Opening, Picking And Carding Waste Unnecessary Waste Can Be Reduced By Going To Lower Productions And Opening The Stock Well By R. A. Hudson	54
Some Progress Reports On Research At T.R.I. Abstracts From Papers Presented At The Annual Meeting Of Textile Research Institute	57
Do You Have What It Takes To Be A Supervisor? (Part 1) A Supervisor Is Many Things But To Management He Is First Of All The Man Who Gets Things Done By Wilmer Westbrook	65
What's So Special About Nylon Polymer Belting? The Popularity Of This Type Belting Has Zoomed In The Textile Industry In The Last Few Years	68
Research Is More Than A Lab Fitted With Men And Equipment; It's A Key To Future Profits To Be Successful It Should Be On Equal Footing With Other Operating Departments In Your Mill By M. Earl Heard	70
Laying Out The Warping And Slashing For Our Warp Stripe Chambray Fabric Here's How To Figure The Warping And Slashing Lay-Out On The Fabric Discussed Last Month By E. B. Berry	72
The Stroboscope—A Valuable Quality Control Tool Stroboscopic Examination Of Your Machines Will Help Solve Operational Irregularities By Michael J. Fitzmorris	78
A Banker Looks At The Textile Industry If You're Using The General Industry Situation As An Excuse For Your Own Management Failures, You're Pulling The Hole In On Top Of Yourself By Joe H. Robinson	81
The Loomfixer And His Job (Part 29) Loom Lubrication Should Be Done On Schedule And The Loomfixer Must See That It's Done Correctly By Wilmer Westbrook	83
Static Drives For Controlling D. C. Motors Offer Flexibility And Lower Cost Installation The New Rectifier Drive From Westinghouse Is Being Used To Overcome Maintenance Problems Associated With Motor Generator Set Drives By F. T. Bailey	85

. . . and includes

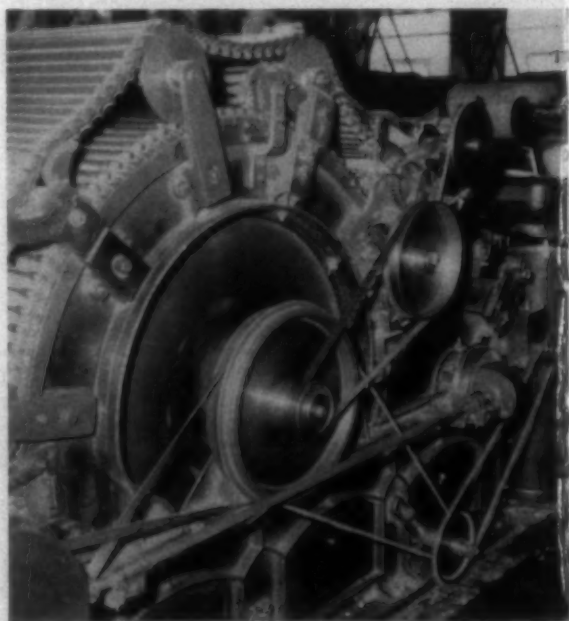
New Products	22	Mill News	96
New Literature	32	Textile Industry Schedule	99
News of Suppliers	34	Editorial	101
Personals	93	Index To Advertisers	102
Obituaries	95	Classified Advertising	103



A.C.M.I.'s annual meeting, Page 43



What makes a good supervisor? Page 65



Nylon polymer belting, Page 68



A staple in textile manufacturing, NEKAL NF is an anionic liquid known for high quality and all-round efficiency as a wetting and penetrating agent. The news is: *the wetting ability of Nekal NF has been stepped up 50% with no loss of efficiency in these other important directions...*

- chemical stability to alkalis, acids, hard water, etc.
- compatibility with the various dyestuffs
- level dyeing characteristics
- low foaming properties

Nekal NF, an alkyl naphthalene sulfonate, may be used with confidence in continuous padding and long-liquor dyeing with vat, sulfur, and direct colors...also in package, beam, hosiery, jig, and other types of dyeing operations on various yarns and fabric constructions.

For further information and samples, get in touch with any General Dyestuff Company office.



FROM RESEARCH TO REALITY

GENERAL DYESTUFF COMPANY

A DIVISION OF

GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

SALES OFFICES: Charlotte • Chattanooga • Chicago • Los Angeles • New York • Philadelphia • Portland, Ore. • San Francisco • In Canada: Chemical Developments of Canada Ltd., Montreal

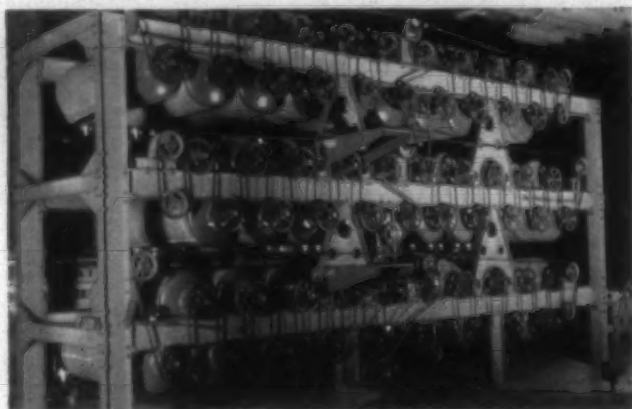
Nekal wetting agents manufactured by General Aniline & Film Corp. are sold outside the United States, by distributors all over the world, under the trademark "Humifen."®

The Textile Shops, Inc.

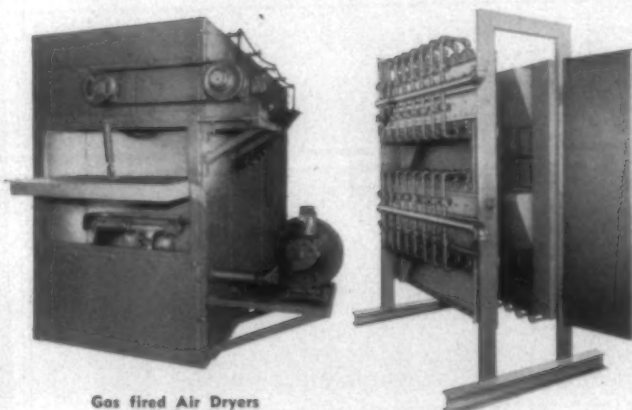
SPARTANBURG, S. C.

P. O. Box 1330

Phone: 583-6356



Stainless Steel Can Dryers



Gas fired Air Dryers and Curers

Gas fired (Infra-red) Pre-Dryers

ADDITIONAL PRODUCTS:

Complete Ranges for Dyeing and Finishing.
Stainless Steel Can Dryers.
Gas Fired Air Dryers and Curers.
Two and Three Roll Manual and Automatic Batchers.
Scrays. Stainless Steel Dye Kettles.
Stainless Steel Hoods and Exhaust Systems.
Vacuum Cleaning Systems for Spoolers, Warpers and Nappers.
Padders and Mangles. Rope Washers.
Stationary and Magazine Creels.
Complete Slashers. Special Machines.

DRY FINISHING MACHINERY

THE TEXTILE SHOPS, Inc. of Spartanburg, South Carolina are manufacturers of Textile Machinery since 1932.

Skilled craftsmen do engineering, designing and manufacturing of all types of Textile Machinery . . . Dry-Finishing and Wet-Finishing Machinery.

Built to your specifications; or standard—by quality craftsmen with quality materials.

CYLINDER DRYING MACHINES (at left) Custom designed machines to suit users' particular requirements, floor space, ceiling height, etc. Highly polished stainless steel cylinders employing dished or flat steel heads built to ASME Code requirements, with or without Code Label as required. Machines are built with heavy structural steel framework. Vee-Belt, Chain or Gear Drive. Face lengths to 144 inches, diameters 23 and 30 inches. Conversion kits for change-over to Vee-Belt drive are available. Also Back Dryers for Print Machines.

GAS FIRED AIR DRYERS & CURERS—GAS FIRED (Infra-red) PRE-DRYERS (at left). Built to your specifications—any width or any length. Finished in aluminized steel—which reduces maintenance costs.

For any DRY Finishing or WET Finishing machinery—or special Textile machinery—write or call THE TEXTILE SHOPS, INC. where skilled craftsmen and engineers will satisfy your needs.

THE TEXTILE SHOPS, INC.

Phone 583-6356

P. O. Box 1330

SPARTANBURG, S. C.